

THE

CALIFORNIA

Desert

MAGAZINE



JULY, 1941

25 CENTS

LETTERS

Desert Magazine Goes to Sea . . .

U. S. S. Monaghan
Pearl Harbor, Hawaii

Dear Editor:

The May number just came today. The insert on Utah is fine surprise. One good thing about "our" magazine is that we don't know what you'll find next to surprise us with. Seems to be a habit of yours to be able to interest so many in so informal a manner.

However there is one suggestion which I believe could be of interest to all. How about an index of all your numbers as to places and persons — a somewhat simplified dictionary of the Southwest? If you don't put one out I'll have to make it myself. (Might be a good thing for me to do anyway.)

Anyway, enclosed is a simoleon for one of your binders for keeping DM permanently. You see I am not the only person on this ship who likes this magazine, so special care must be taken if they are to be kept intact.

ROBERT O. MAXWELL

About Those Scorpions . . .

Glendale, California

Dear Mr. Henderson:

A word of sincere appreciation to Dr. Herbert Stahnke for his valuable contribution to

the world's knowledge of scorpions. I hope his efforts are recognized. (Might say that hospital privileges and consultation with the medical fraternity constitutes recognition.) More power to him!

But I am wondering about one thing—you may easily believe that ICE is not a part of my standard desert equipment. And what am I supposed to do when the *Centruroides sculpturatus* gets his gig in my hind leg?

BOB ORR

Take 'em Away . . .

Santa Ana, California

Dear Sirs:

I have about 125 seedling date palm trees from 1 foot to 4 feet in height growing in my back yard which I wish I could give free to someone or a community living on the desert anywhere that water is available. These date palm trees are grown in Arabia, Iraq or Persia or some similar place.

Authorities state that seedlings occasionally turn out to produce very fine dates. If you care to make this known for the benefit of the public in your publication I would greatly appreciate it.

I would be pleased to hear from you.

BAYARD T. BAKER

Who Knows the Answer? . . .

Tucson, Arizona

Dear Editor:

I can't decide whether your magazine is an asset or a liability in our home. It was all right until my husband and youngest son started going off weekends and lugging home boxes and sacks of rocks.

And that wouldn't be so bad if they would keep the stones out in the yard where they belong. But they have them all over the place —on the reading table, the window ledges,

everywhere they can find a flat place. Rocknitis is the right word for them—and that is what your magazine did to them.

I wish you would run an article about how to cure rocknitis—or do they regain their sanity after a few months?

VERA MALLORY KEMKNAP

More Scenery Wanted . . .

Beverly Hills, California

Editor, Desert Magazine:

The scenic folder in color, Utah—land of endless scenic discovery—was truly an attractive addition to the May number of Desert Magazine. Surely you dare not stop now until all the far western states are given a like presentation — Washington, Oregon, California, Arizona, Nevada, Idaho, Montana, Wyoming, Colorado and New Mexico. You have started something. Do not let it stop.

M. F. DOLAN

Invitation to Collectors . . .

Wecoma, Oregon

Desert Magazine:

We are members of the North Lincoln Agate society, and we have some beautiful agates that are found on our beaches. Also, lots of moss and scenic nodules found in central and eastern Oregon.

We are holding an agate show July 18-19-20 in the Dorchester hotel and stones may be bought, sold and exchanged. Thought maybe some of your many readers and collectors might be planning a trip to the coast and here would be a very good chance for them to bring some of their rocks along and kill two birds with one stone. Anyone who wishes may display, so here's hoping we will see some of the collectors from the Southwest. We'd like to get acquainted with you.

W. J. BODDIN

TAKE IT EASY-



DESERT *Calendar*

- JULY 1-4 Annual fiesta and rodeo by Mescalero Apache Indians on reservation, Mescalero, New Mexico.
- 2-4 Rodeo and stock show, Grants, New Mexico.
- 2-4 Eighth annual rodeo, Silver City, New Mexico.
- 2-6 Hopi crafts exhibit, Northern Arizona museum, Flagstaff.
- 3-6 Frontier Days, Prescott, Arizona. Lester Ruffner, Jr. and Nelson Wirick, chairmen.
- 4 Rodeo at Cree ranch, Ruidoso, New Mexico.
- 4-5 First International convention, Cactus and Succulent Society of America, St. Louis, Missouri, Botanical Gardens.
- 4-6 All-Indian Pow-Wow, Flagstaff, Arizona.
- 4-6 Rodeo, Reno, Nevada. \$7,000 prize money.
- 4-6 National convention, Women's Aeronautical association, Albuquerque, New Mexico. Mrs. Harriet Davidson Nye, chairman.
- 9-11 Trail Riders take trip to San Jacinto peak, above Palm Springs, California. For information write A. E. Bottel, secretary, San Jacinto Mountain State park association, Idyllwild, Calif.
- 10-12 Ute Stampede, Nephi, Utah. R. E. Winn, R. Elgin Gardner.
- 14 Indian Corn dance at Cochiti pueblo, New Mexico.
- 17-19 Robbers Roost Roundup, Price, Utah. F. W. Keller and Donald Hacking.
- 20-22 State Credit and Collection agencies association convention, Albuquerque, New Mexico.
- 21-24 Pioneer Days, Ogden, Utah. Fred A. Kuhlmann and E. J. Fjeldsted.
- 22-26 Covered Wagon Days, Salt Lake City, Utah. Gus Backman and J. Parley White.
- 25-26 Corn dances in Taos pueblo, New Mexico.
- 26 Annual fiesta and dance, Santa Ana pueblo, New Mexico.
- 26-AUG. 23 University of New Mexico holds field sessions in anthropology at Chaco Canyon research station, direction of Dr. Leslie Spier.
- 28-AUG. 3 University of New Mexico conducts 11th annual field school of Indian art at Laboratory of Anthropology at Santa Fe. Kenneth M. Chapman in charge.



Volume 4

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Evening Primrose
"Basket"

By DORIS C. PRIESTLEY

1105 S. Hamilton Blvd.
Pomona, California

Awarded first prize in Desert Magazine's June photographic contest. Photo taken with a Graflex 4x5, super pan press film, Agfa; F.8, K3 filter, 1/100 sec. Developed in D 17, 20 min., printed on Brovira.

Joshua Blossom

By CLARENCE G. SCHONBORN

2090 Harding Avenue
Altadena, California

Second prize winner in the monthly contest conducted by Desert Magazine. Taken with an Ikoflex 2 $\frac{1}{4}$ x2 $\frac{1}{4}$ camera, 1/50 sec., f8, K2 filter.

Special Merit

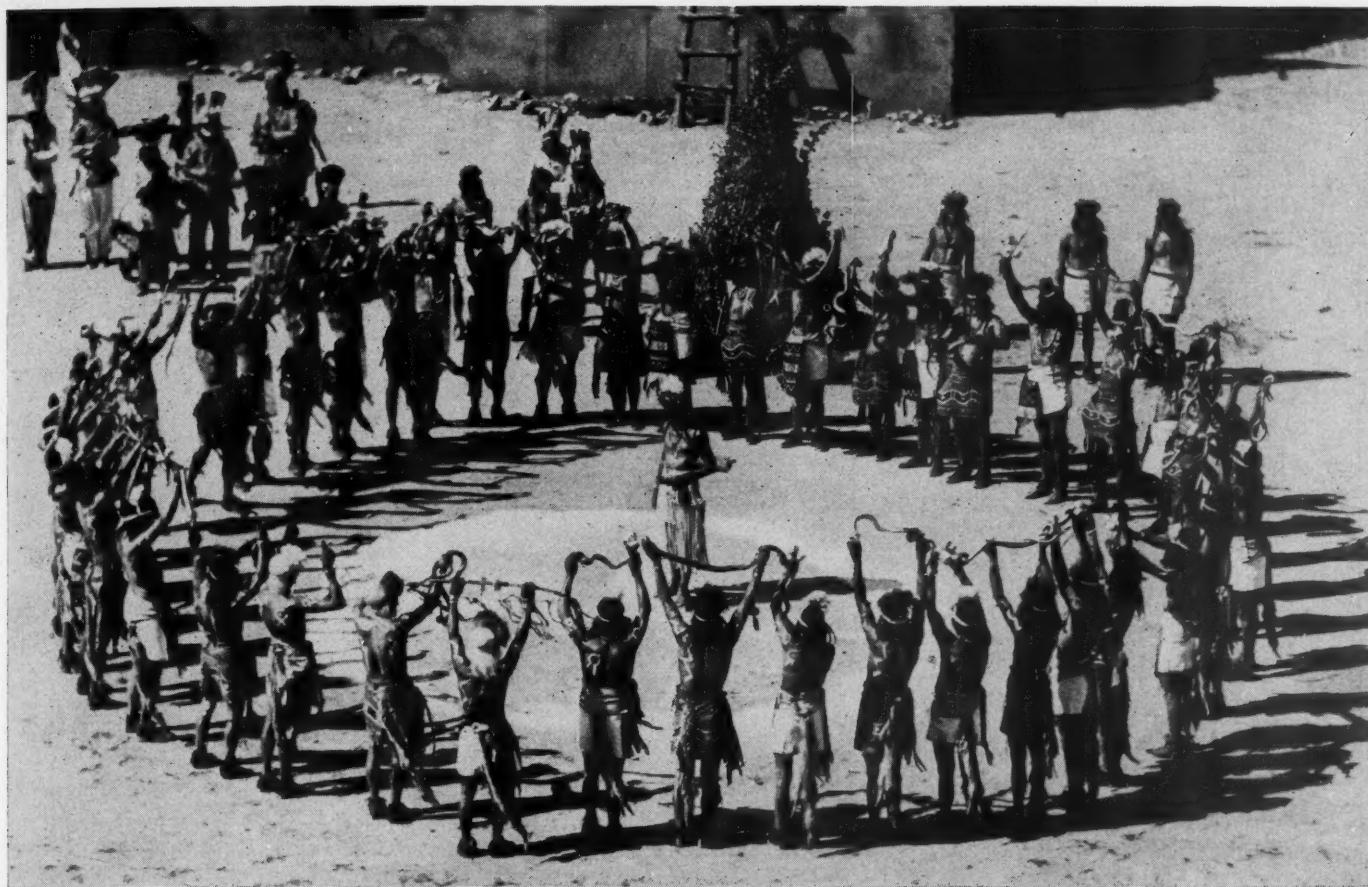
Selected by the judges as having unusual merit were the following:

"Weathered Pickets, Walker Pass," by Harry W. Dacquet, Gardena, California.

"Desert Palms," by Clifford B. Paul, Moline, Illinois.

"Organ Pipe Cactus," by Helen A. Young, Delavan Lake, Wisconsin.





When the Smoki Dance at Prescott

Sunday at sundown, August 3, 300 pairs of moccasined, dancing feet will rhythmically beat the smooth, hard-packed, earthen floor of the Smoki Ceremonial grounds in Prescott, beginning the 21st annual presentation of another beautifully significant group of Indian sagas and dances. To stirring native tom-tom rhythms, white men, painted and garbed as Indians, with complete abandon grasp live, writhing snakes in their bare hands and mouths—whirling, chanting, straining every fiber of their bodies as the ceremonials reach their climax in the last of the rites—the world-famous Smoki Snake dance. The thousands who yearly witness the Smoki Snake dance are thrilled by this breath-taking spectacle. They claim it to be one of the most weird and unforgettable revelations civilized man has ever been privileged to experience.

Yet, strangely enough, these unique and impressive ceremonials which today focus the attention of the world upon an almost sacred memorial staged in the heart of the virgin pine forest wherein lies Prescott, Arizona, had their beginnings in 1921 when a lively bit of entertainment was needed to round out a Trader's day celebration.

At that time, an enterprising citizen of the mile-high city suggested burlesquing



Smoki Snake Priest.

the colorful dances of the local Indians. In the audience laughing at the gaucherie of that burlesque, were a few Prescott citizens who saw the potentialities for beauty and reverence in this travesty. These far-sighted men and women recalled how the culture and customs of the ancient Aztecs had been lost. They realized the need of preventing a similar disaster to the culture of the American Indian.

Then and there to preserve, to revitalize and immortalize the religious beliefs, customs, music, dances and literature of a noble people, they created the Smoki clan pledged to incessant research in the written and unwritten histories of the Southwestern Indian.

Toward this end they have worked for 21 years. Now, once a year, early in August, they give the world this strange and beautiful digest of the best their studies have uncovered. That group of six or eight originators has grown to an active participating membership of more than 300 men and women. Today, scattered over the world, there are hundreds of others who have participated in the dances of the Smoki people since the clan originated. All of these bear the identifying "honor mark"—a tiny tattoo mark, like the fang of a snake, on the side of the hand.

DWhen Kit Carson was sent out by the War department in 1863 to put an end to Navajo depredations, Hoskaninni refused to surrender. Instead, he escaped with a little band of Indians to the wild Navajo mountain area and kept his freedom despite hardships that would have beaten a less courageous leader. Many stories have been told about the old warrior

and his undying enmity toward the white man. But he is dead now and all the truth will never be known. Hoskaninni-begay, son of the unconquerable old chieftain, was five years old when his father outwitted Kit Carson's soldiers—and recalls many of the incidents of that historic episode. Here is the story as told to Charles Kelly.



Hoskaninni

Monument valley, on the Utah-Arizona line, which Hoskaninni claimed as his own after his return from Navajo mountain. In this section Hoskaninni's authority was supreme for many years.

By CHARLES KELLY

DEEP purple shadows crept up the base of Navajo mountain as the last rays of the setting sun illuminated its lofty summit. On the wild desert between the great mountain and the Colorado river a five year old Navajo boy clung to his mother's ragged skirts as she watched a small herd of half-starved sheep. Their moccasins had long since worn out, their feet were bruised and full of cactus thorns, their clothing nothing but tatters. For nearly a month they had been traveling on foot, mostly at night, through a wild unfriendly desert. They were nearly dead from hunger and exhaustion.

Slowly a man rode toward them through the sagebrush on a horse which seemed scarcely able to maintain the weight of its rider. He was tall and gaunt, weary and hungry, but in his eyes burned the light of an unconquerable spirit. His name was Hoskaninni, husband of the woman and father of the boy.

"Come," he said, "the sun is almost down and we must be going."

"No!" replied the woman, glancing through tear-dimmed eyes at her small son. "I will go no further. Even if the Utes kill me I will not move from this place!"

It was the first time she had ever refused to obey her husband. Hoskaninni frowned and was about to speak, but looking at his little son he realized there must be a limit to human endurance. Slowly he dismounted and began to unsaddle his horse. The end of the trail had been reached.

The lad who clung to his mother's skirts that day in 1863 was Hoskaninni-begay, now 81 years old. His father, Chief Hoskaninni, with a band of 16 followers, had defied the government and escaped from the net laid by Col. Kit Carson's soldiers, who had been instructed to round up all Navajo and bring them to the great prison camp at Fort Sumner in Arizona.

Only Hoskaninni's band and a handful of stragglers had escaped. Much has been written of this Navajo campaign of 1863, which subdued the proud Navajo nation, but only one living man knows the real story of that little band of "irreconcilables" who preferred death to surrender.

Hoskaninni-begay, only son of the old chief, still lives in Monument valley, a picturesque but little known section of desert 50 miles south of Bluff, Utah, on the Utah-Arizona border. Knowing his story would be lost when he died, I recently spent a week with him at his hogan on the desert in order to record this Navajo epic. The interview was made possible, after considerable negotiation, through Hoskaninni-begay's friendship for Harry Goulding, Monument valley trader, and Ray Hunt, interpreter, without whose able assistance this story could not have been written.

The white men gave him the name



Once a firebrand, Hoskaninni-begay now sits in stoic silence. The hands that in youth pulled the war bow now lie passive, gnarled and wrinkled after nearly a century of life and struggle on the desert. On the seat beside him is one of the children of his youngest wife.

Copyrighted photograph by Clifford Bond.

Hoskaninni, a corruption of Hushkaaney, meaning "the Angry One." In 1863, when the army began rounding up the Navajo, he was a young man in the prime of life, with a wife and child. He was not a chief nor the son of a chief, although his commanding appearance and natural ability had made his influence felt among his people.

Kayenta (meaning stagnant water), about 50 miles south of the Utah-Arizona border, was the ancestral home of Hoskaninni's family. Ten miles north stood the sharp pinnacle of El Capitan (Agathla), northern limit of the Navajo country. Beyond lived the Utes, traditional enemies.

For generations the Navajo had been raiding their neighbors—the Pimas, Hopi and Mexicans. When their country was taken over by the United States in 1848 they were warned to discontinue their depredation, but the warnings had no effect. Four army campaigns between 1849 and 1861 had failed to subdue them. It was at last decided that the only way to pacify the country was to capture or kill every Navajo, and destroy every means of subsistence.

Carson began his campaign in July, 1863, by sending flying columns into various parts of the desert. These detachments rode swiftly, killing a few Indians here and there, destroying cornfields and capturing sheep and horses. At first the Navajo put up a stubborn resistance, but they soon realized that Carson meant business this time, and by the middle of September small groups were coming in to Fort Sumner to surrender. After their resistance was broken at Canyon de Chelly, practically the whole Navajo nation surrendered and was placed in the great prison camp at Bosque Redondo.

Living on the northern border of Navajo territory, as yet untouched by army raids, Hoskaninni refused to be stampeded, even by some of his relatives, who surrendered. He declared: "I was born in this country. My ancestors are buried here. I will not be trapped like a rabbit nor herded like a sheep. I will be a free man, even though the Utes kill me." A family council was called and Hoskaninni presented his plan to escape to Navajo mountain where he felt sure no white soldiers would follow. But in order to reach the mountain it would be necessary to travel north and west through Ute territory. He described the hardships that must be endured, but believed that by utilizing every possible product of the desert such as grass seed, wild berries, roots, rabbits, gophers, badgers and bobcats, they could survive and eventually reestablish themselves. Some of his relatives preferred a promised supply of beef in prison to the strenuous life of their forefathers. Only 16 persons volunteered to follow Hoskaninni's banner of "freedom or death." They were his wife and five year old son, his wife's two sisters, his mother, one

brother, an uncle, Yellow Hair's wife, her sister and daughter; the grandfather and grandmother of the Man Who Swears; Laughing Boy, and two infants belonging to some of the women. There were eight women, four fighting men and one half-grown boy.

Before proper arrangements could be completed scouts brought word that the white soldiers were on their way to Kayenta. Instant flight became necessary. The women quickly got together what few belongings they could carry on their backs. Only three horses were available and these were ridden by Hoskaninni, his brother and uncle. Twenty head of sheep were selected as the nucleus for a new herd in case they made good their escape; no more could be driven in their hurried flight.

In the dead of night these 17 began their historic trek toward Navajo mountain. To the east they could see the regular campfires of the soldiers, and to the west the scattered fires of the Utes. Their only possible path of escape lay to the north between those two lines, across a wide, dry desert.

"Our success," says Hoskaninni-begay, "was only possible because the Utes were afraid of the dark. We made our way from one waterhole to another in the night, hiding during the day. We had four enemies: the Utes, the white soldiers, bands of raiding Mexicans—and hunger. Mother was more afraid of the Utes than all the others.

"My father and uncle rode ahead on their horses to scout. For the first few nights we had a bright moon and it was not hard to drive the sheep, but we could not stop to hunt for food. Later, when there was no moon, we had a hard time finding our way and moving the herd. By then we had got away from the soldiers but were in the Ute country. Father had one old muzzle-loading rifle, the others only bows and arrows.

"When we had traveled two nights north of Agathla we turned west through an opening to the head of Oljeto (Moonlight water), then continued west and southwest toward Navajo mountain. We could have followed several different canyons down to the Big river (Colorado), but father wanted to get behind the mountain, so we took the hardest road, climbing down into many deep canyons where there was no trail, and up again to the flat mesas above.

"I was only five years old at that time, but I herded those 20 sheep most of the way from Kayenta to Navajo mountain. In the dark I stumbled over rocks and stepped on cactus thorns. All our feet were bruised and swollen; we had no buckskin to make new moccasins. Our dried meat was soon gone and we had nothing to eat except a little boiled grass seed. After we began turning toward the south we left most of the Ute camps be-

hind, and could travel easier, but we could find nothing to eat for ourselves, and little feed for the sheep.

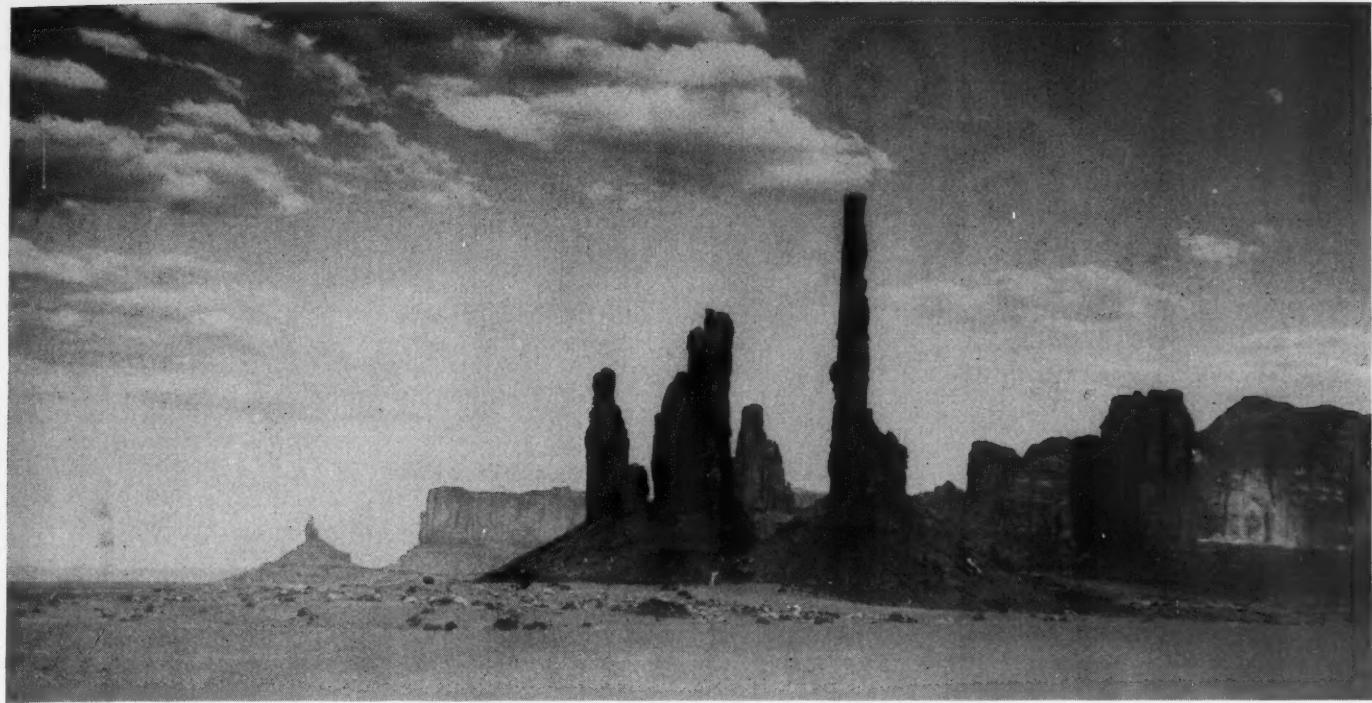
"When we finally reached the eastern base of Navajo mountain the people wanted to stop there, but my father said we must go on until we had put the mountain between us and our enemies. We went around the southern end of the mountain, over the roughest country in the desert, then turned west and north toward the Big river. For many days mother had been crying. She was hungry and very tired. At every camp she would ask father to stop. Finally she sat down and said she would go no further, even if the Utes killed her. So we made camp near some springs and began building our hogans. We still had our three horses and all of our sheep, but Laughing Boy had died along the way.

"All the people wanted to rest after that hard trip, but father would not let them. It was late in the summer, when the grass seed is ripe and father made us all work from sunrise to sunset gathering seed for the winter. The men went hunting, but could find only small game. As we gathered food, father hid it in holes in the rocks at different places so the Utes could not find it if they came. He would not let us kill any of the sheep, even when we were hungry. He drove everyone so hard that the people gave him the name Hushkaaney, the Angry One. They were all afraid of him.

"As soon as we had made a good camp, father and his brother and uncle returned to Kayenta to see if the soldiers had left any animals alive. They found all our hogans burned and our cornfields trampled down. In hidden canyons here and there they found a few sheep and some horses. They found some of the people hiding like rabbits. Each one thought he was the only man left. While looking for horses a band of Utes caught my uncle and killed him. Father rode into their camp the next night and killed three of them. On the top of Black mountain he found about 50 Navajo who had escaped. They were living like rabbits on the desert. Most of them starved to death the next winter.

"With the sheep and horses he had found, and about 10 more men, my father and his uncle came back to our camp behind the mountain. The Utes never came there in winter, so we had no trouble with them. We were often hungry, but when spring came not one of us, nor any of the animals had died. Our sheep began to increase and we made new blankets from the wool. Our men went north to the San Juan for buckskin to make moccasins.

"For several years we saw no one at our camp behind Navajo mountain except one young Ute brave, who sometimes traded us powder and bullets for father's gun. He claimed to be our friend, but was only spying on us. He started with a party



The Totem pole in Monument valley near Sand springs, one of Hoskaninni-begay's old camping places.

of young men to kill us one time, but he was so bad his own people killed him near Ute mountain."

For years it was supposed that Hoskaninni's band had perished like most of those on Black mountain. Nothing was known of his whereabouts, as he had no contact with the outside world. But after that first hard winter the band began to prosper. Hoskaninni was a hard taskmaster, but he taught his people the benefits of industry. He kept them constantly at work, and prohibited all gambling.

At the end of five years the Indians at Fort Sumner were released. Each family was given a few head of sheep, some garden seeds and a small amount of rations. After five years of complete idleness they returned to their ruined homes and tried to make another start from scratch. Many died of starvation and disease. But by that time Hoskaninni and his band, who had preferred death to imprisonment, were well on the road to wealth. When he moved to the east side of Navajo mountain he had a thousand head of sheep and many horses.

By that time most of the Utes had moved north of the San Juan, leaving the section now known as Monument valley almost deserted. Rather than become wards of the government, Hoskaninni and his band occupied what was then called the Piute Strip, 40 miles wide and extending from the Colorado river to the Carrizo mountains. As time went on and his prestige increased Hoskaninni made his authority supreme in the desert domain, the last free chief of the Navajo nation. He was feared and respected alike by Utes

and whites. For many years he was known as the wealthiest Navajo.

Although they had had no contact with the outside world for five years, when the Hoskaninni band returned from Navajo mountain they were found to possess a great wealth of silver. During the years they continued to increase that wealth, yet it was known that they never traded for silver. It became a legend among prospectors that Hoskaninni had a secret mine where he obtained silver pure enough to work without smelting. Hoskaninni-begay told me the history of that secret mine. It really did exist, although its location is not known to him. But that is another story.

After he went to Navajo mountain, Hoskaninni married his wife's two sisters, but neither bore him children. Hoskaninni-begay, the chief's only son, took his first wife when he was 14 years old. His father gave him 200 sheep and his wife was given an equal number by her family. Within a few years he was a very wealthy young man.

"In those days," says Hoskaninni-begay, "there was plenty of rain and the grass grew tall all over this desert. My father had taught me to work hard and take care of my property. Soon I had thousands of sheep, horses, and much silver. Then young women came to me and said I had too much property for one wife to handle. They took me by the belt and would not let me go. I married eight wives and had 28 children. All my wives are dead except the youngest. She has four children, the smallest one eight years old. As my family died I buried with them much silver, turquoise and blankets, as is

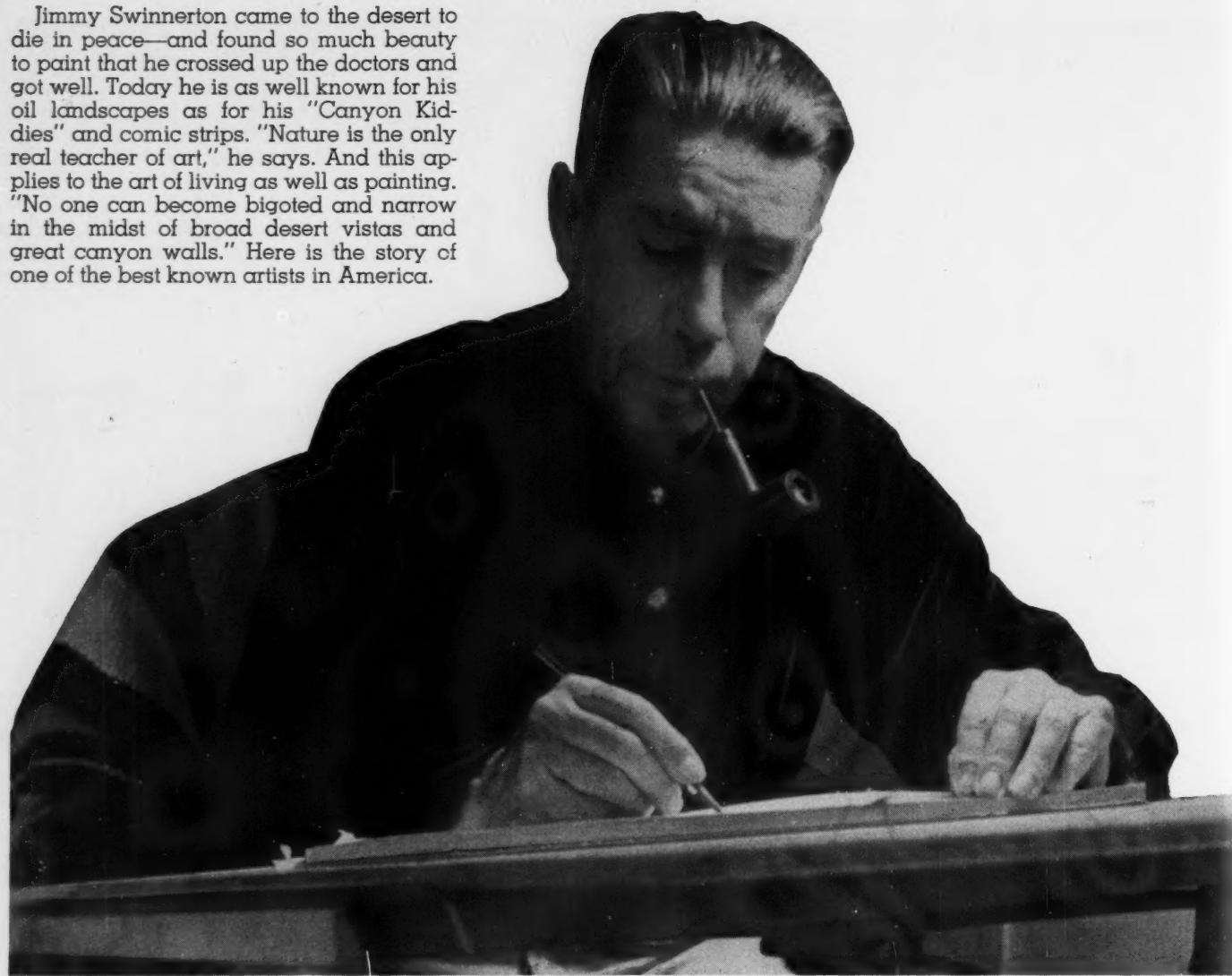
our custom. Now all I have left is 67 head of sheep and one old necklace my father gave me. Even the necklace was pawned last winter to buy food. Now, when the trader sees me walking through the sagebrush he says, 'Here comes that old coyote again!'

"When my father died (in 1912) he wanted me to take charge of the family fortunes. But after he was buried his women (including two Ute slaves) insisted on dividing the property. Each took her share and went her own way. Soon it was all wasted. I have divided my property with my children and now I have no more to give them. The rains do not come, the grass is gone, and our sheep are dying. If only the rains would fall like they did in the old days, the Navajo could once more be prosperous and happy."

I can never forget the evenings spent in Hoskaninni-begay's hogan as he unfolded, bit by bit, the story of his father's life and of his own. Even in bitter poverty he still carries himself with the pride of race and blood. Inborn dignity and courtesy were exhibited in every word and gesture. He answered the innumerable questions put to him without hesitation and, I believe, with the utmost honesty. He was glad to know that the story of his family was to be recorded in permanent form.

Before parting with Hoskaninni-begay I sent to a distant trading post and redeemed his last bit of jewelry—the turquoise necklace given him by his father, Chief Hoskaninni. When I laid it in his hand he embraced me and wept for joy. It had been a real pleasure to know this old gentleman of the desert and I was proud when he called me "Brother."

Jimmy Swinnerton came to the desert to die in peace—and found so much beauty to paint that he crossed up the doctors and got well. Today he is as well known for his oil landscapes as for his "Canyon Kiddies" and comic strips. "Nature is the only real teacher of art," he says. And this applies to the art of living as well as painting. "No one can become bigoted and narrow in the midst of broad desert vistas and great canyon walls." Here is the story of one of the best known artists in America.



Swinnerton at work in his studio on one of his "Canyon Kiddie" cartoons.

Nature is His Teacher

By JOHN W. HILTON

JIMMY Swinnerton was seated at his easel in his Hollywood studio. Before him was a partly finished painting of a huge black cliff in southern Utah, which even in its uncompleted state seemed to breathe the very atmosphere of the desert. Around the walls were fine examples of Indian craftsmanship, and on the floors were geometrically designed Navajo rugs. As he talked on I completely forgot that I was in the heart of a thriving metropolis. The desert seemed to invade the room, and the far places Jimmy loved to paint, and the many Indian friends he had in the Southwest seemed to crowd to life there as he mentioned them.

On his drawing board was a layout for one of his famous "Canyon Kiddie" cartoons. "It's funny," Jimmy said, "how I came to draw the 'Canyon Kids.' I always

liked Indians, especially the kids, and I never had any trouble getting along with them. After all, a broad smile and a little patience and understanding is all it takes to make them like you."

"You know," he went on, "Indians are extremely art-conscious. You can see it in everything they make and do. Every little household utensil has its own good proportion or decoration, and art has an important place in their religion. Why, they even use art, in the form of sand drawings, to cure the sick. Some of our modern hospitals with glaring white walls would do well to study the psychological effect of color and design on sick persons. Maybe the Indians have something!"

"But getting back to the 'Canyon Kids,' I had been drawing Little Jimmy for Mr. Hearst for a long while when one day I was called upon to help arrange a chil-

dren's party. I thought for some time about something that would please the youngsters, and finally decided upon a set of place cards showing little Indians performing their everyday tasks and playing with their pets, surrounded by the colorful background of their homes. The longer I worked on these little fellows the more interested I became, and it seemed to me that I really had something in them."

"The next time I saw Mr. Hearst I showed him a set that I had made for myself, and asked him if they had any possibilities. He glanced over them, and put them in his pocket, saying that he might print them as comic post cards or something. I felt a little disappointed, but passed it off as another dud idea. After all, Hearst ought to know. It was some time later that he called me up and asked me about the 'Canyon Kids.' I had forgotten all about them, but not he. He told me that the editors of Good Housekeeping were looking for something in the way of an

Indian cartoon in color, accompanied by a poem for children.

"I got back the originals and started on my first layout. I could draw the kids, all right, and the hills and desert and animals, but I had never in all my life written a poem. Well, when I got through, the stuff rhymed, which seemed a miracle in itself. I sent the first batch of cartoons and poems in, and after a few days received a reply from the editor. He thought the drawings were great, 'but didn't I think that the poems smacked a bit of doggerel?' Well, he published them, and asked for more, but the poetry got no better. From time to time I received gentle hints that the stuff I was writing was not exactly considered literature with a capital 'L.' They even found fault with my grammar, but they kept printing it.

"Then one day I was invited to a dinner with the editor and his associate. They spent an entire afternoon and evening pointing out that their magazine had one of the highest literary standards in the country. Finally the associate editor turned to his chief and remarked, 'Did you know that in the past ten years our magazine has published a higher percent of the really good American poetry than any other publication on the market?' It seemed my cue then to take a bow, so I told them in a few brief words how I appreciated their praise, and how I hardly



"Storm in Monument Valley" is one of Swinnerton's outstanding canvases. Photograph courtesy Los Angeles Herald.



Swinnerton's painting "In Southern Utah." Photograph courtesy Los Angeles Herald.

felt worthy of being classed with the best poets of America, but if that was the way they felt I was very happy indeed. I guess they gave me up after that because my characters still say 'ain't' and 'me neither.'"

Jimmy Swinnerton's love of the west comes natural to him. His grandfather crossed the plains twice in a covered wagon back in the '50s, and Jimmy himself was born in the pioneer town of Eureka, California, in 1875. He received his early schooling in San Francisco, and at the age of 15 took up his life's work in an art school. He met George Innes in the studio of William Keith, and they both gave him considerable encouragement and advice, urging him to go into the fine arts.

But at the age of 16, after a year of art schooling, Jimmy got a job doing political cartoons on the San Francisco Examiner, and dropped painting. Keith never spoke to him again.

Here he started Little Jimmy, one of the first four comic strips in America. He moved to New York with the idea, and continued to draw comics and do political and sport cartoons until overwork and city life nearly killed him.

He decided to return to his first love, the west, and settled on the desert to die in peace. But strangely enough he surprised both his friends and doctors by regaining his health, thanks to the good ad-



This is Jimmy Swinnerton's caricature of himself at work on the desert.

vice and help of Mrs. Nellie Coffman, who operated a small sanitarium in the new community of Palm Springs.

The history of Jimmy Swinnerton's fight for health in the desert, and of the friendships with such men as Zane Grey and Carl Eytel would fill a very interesting book. He became intensely interested in the desert, and being an artist saw its great potentialities for paintings. As his health returned he did more and more serious work, and eventually began to find himself. Today, even with health no longer a serious consideration in his life, he spends a great part of his time out in the desert he loves, painting the things he likes.

"Mr. Swinnerton," I asked, "I know that this is a tough question, and covers a lot of ground, but how do you feel about art?"

Jimmy lit his pipe, settled back in his chair, and looked up at the ceiling.

"Johnny," he said, "art is a mighty elusive thing. There is entirely too much written and talked about art and not enough painting and looking. A true artist must distrust what he reads and hears, and believe only the beauty he sees. Painting is an individual effort, and no real artist can follow the pattern of another."

"Nature is the only true teacher. An art school can teach one to observe and to master the ability of drawing and painting, but no mere technical skill is sufficient to bring out the fine things in nature. First an artist must love and humbly study nature, remembering all the while that man with all his skill and scientific knowledge cannot so much as create a blade of grass or a grain of sand. My favorite Bible verse is 'Blessed are the humble in spirit.' The best way to approach nature in an humble mood is to go out into the desert alone. No one can become bigoted or narrow in the midst of broad desert vistas and great canyon walls. The duty of the artist is to experience these

things, and then reconstruct his experiences on canvas.

"The painter who works entirely in the studio on abstract nothings conjured up by his own feverish brain has very little to give the world. His paintings may find favor in the eyes of a few other neurotics who have had similar nightmares, and if his stuff follows the mechanical rules of color, balance and composition it may furnish fine material for the writings of sensation-seeking art critics and their pseudo-sophisticated followers. But art that does not find its inspiration in nature has little to recommend itself to future generations, and will be remembered principally as a curiosity.

"To me, landscape painting is a shortcut to faith. The artist cannot hope to recreate nature. The finest artist in the world cannot paint a perfect flower. The real purpose of a painting is to call attention to the beauty in nature. A successful painting is a sign post reading, 'Yonder is beauty! Go see for yourself.'

"I prefer painting the desert, because it is not so well posted as other types of landscape. There is no end to the beauty of sand and rocks and sage-brush, but few persons see it when they pass through the desert. All of the serious work I have done has been on the desert, and there is enough there to occupy me the rest of my life."

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WILL ROGERS JR. LOOKING FOR DESERT HOMESITE

Will Rogers, jr., and his bride are hunting for a ranch home in New Mexico. A week after their marriage, the Hollywood publisher in June went to Santa Fe, seeking a "pink mesa" on which to build a residence for the new Mrs. Rogers, a former Tularosa, New Mexico girl. Rogers, son of the late humorist-philosopher, expects to be called to army service soon. His wife will run the ranch then.

Sez Hard Rock Shorty of Death Valley

By LON GARRISON



"Nope!" announced Hard Rock Shorty. "I was over in the Sierra Nevada mountains once, an' I ain't goin' back. Too many o' them blitz-skeeters. I don't back off from no mountain lions, an' personal an' single handed I've licked a bear. But them skeeters—huh-uh! I don't want none of 'em."

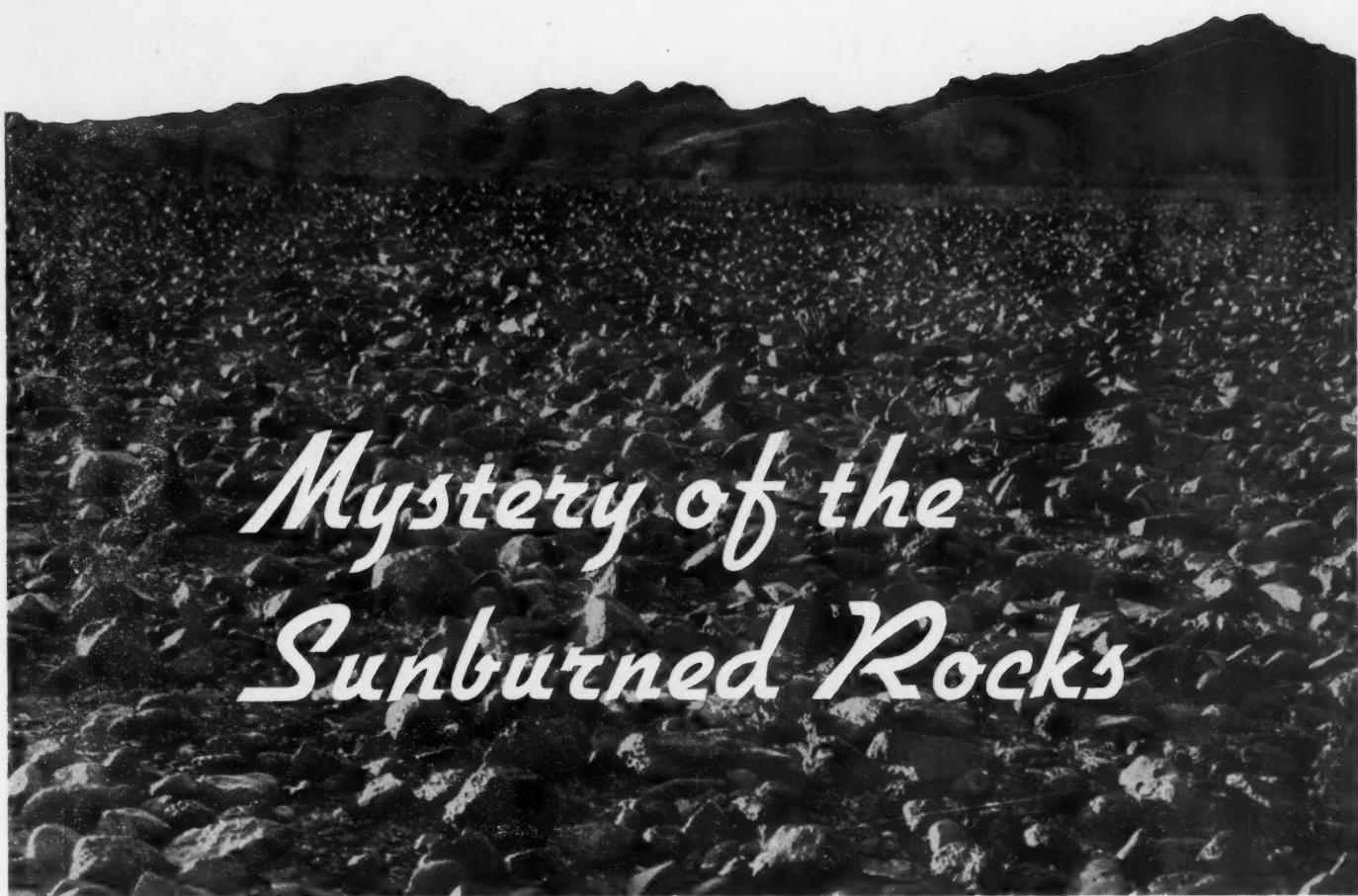
With this pronunciamento Hard Rock settled the argument as far as he was concerned. All that remained was to prove his point.

"One mornin' over there I went out to get some wood, an' I wasn't more'n a couple hundred yards from town when one o' these tri-motor skeeter fleets got after me. Great big affairs—buzz like a saw hittin' a nail—and' there was fourteen of 'em includin' the leader who was as mean an' ornery lookin' as anythin' I ever hope to meet. Zoom—Zoom—they was divin' in at me, all wavin' their bills, and lookin' for breakfast.

"I ducks under a tree an' was sure glad I'd brung that axe along. She was sharp as a razor too. The branches o' the tree kep' the skeeters from maneuverin' so good, an' after while I begins to get mad. I starts dashin' out an' makin' swipes at 'em with the axe but I couldn't hit 'em. By a lucky swing though I cuts a gash in the leader's foot, an' the fun begins.

"He was plumb furious. Right at me he come—power on, an' in high gear. I ducks back o' the tree but that don't stop 'im. He comes right on, hits the tree, an' drills right on through with his beak. I'm on the other side an' when this bill comes pokin' through I just up with the axe, splits his bill, an' clinches 'er over.

"While the rest of 'em was zoomin' around lookin' for the leader, I gets home, but as I said, them blitz-skeeters is just one too many for me."



Mystery of the Sunburned Rocks

Some folks call them "sunburned rocks" but this explanation did not satisfy the scientific mind of J. D. Laudermilk of Pomona college, so he went to work in the field and in his laboratory to discover what really causes the "desert varnish" that occurs so generally in the arid region. And here is the answer—written in terms that all may understand.

By J. D. LAUDERMILK

"*T*HAT'S jest sunburned rocks," my friend Shorty assured me. "There ain't no gold in 'em."

And as far as Shorty was concerned, that ended the matter. Rocks that did not carry mineral values of some kind were of no interest to a burro prospector. Why waste time on them?

This was in 1920. Shorty and I were trying to get a little cooperation from a gang of burros in the strip of desert between Wickenburg and Octave, Arizona, where many stretches seem to have been carefully coated with a black and shiny varnish that reflects the sunlight like a well-oiled highway.

In those days my interest in geology was more practical than scientific, but I never was satisfied with Shorty's interpretation of the black lacquered rocks so common in many parts of our deserts. That a rock could become sunburnt simply didn't make sense, although a superficial diagnosis might very well lead to that conclusion.

I often broke open these coated specimens and tried to discover the secret of

their neatly blackened surface. Their internal composition didn't throw much light on the subject because they seemed to be rocks of all types. Light-colored rocks and dark rocks, granite, basalt and even quartzite were all coated with desert varnish. The only thing they seemed to have in common was their brunet complexion. The popular literature didn't help a particle. Most authors passed the subject up with as little consideration as Shorty did. If they couldn't get out of it this way, they had a habit of relapsing into poetry, and spoke of such things as "cloud shadows on the desert's face."

This "mystery of the sunburned rocks" remained in the back of my mind until recent years when I became seriously interested in geology, especially in its chemical aspects. I knew this "sunburn" was commonly called desert varnish, and I learned from the scientific journals that it had aroused the curiosity of early day geologists who had recorded their observations and had suggested numerous theories. The Germans called it *dunkel Rinden*. But none of the scientific sources

gave an answer that seemed applicable to the black-coated rocks of our own desert.

This black lacquer or something like it was said to occur in all parts of the earth where desert conditions prevail, even in such unexpected places as on rocks near Alpine glaciers where the constant low temperature and high altitude produce a condition that may very well be described as "arid." In Egypt, the top of the pyramid of Cheops shows the beginning of a desert varnish coating and the marble of the Acropolis is said to be acquiring a layer of this variety of sun-tan. In Australia again, it shows up in the more arid localities as well as in some of the forests, where it blackens the rocks beneath the trees.

The earliest American reports on the subject were those of Oscar Loew who published his ideas and observations concerning the varnished rocks of the Mojave desert in 1876. Loew was of the opinion that this black surface finish had come about from the evaporation of the waters of a shallow ocean that had held the salts of iron and its first cousin, the element manganese, in solution. Later, another American observer, H. W. Turner, pointed out that the present terrain had never been covered by anything resembling an ocean. One interesting theory was that of C. H. White, who suggested that desert varnish might have resulted from the decomposition of the pollen of certain desert plants such as cacti, which are said to



These rocks were partly buried in the sand. Desert varnish spread only over the area exposed.

be particularly rich in manganese. According to White's theory, much pollen is blown about in the spring and early summer. Some of this sticks to the rocks and was supposed finally to leave the black coating.

None of the published data was satisfactory when applied to the interpretation of the desert varnish of our local deserts. One of the first things that I learned when I began to do research is that identical results can come about from totally unrelated causes. It was precisely like a problem in criminology where the practice is to select a particular crime and pick it to pieces bit by bit. When there are no fragments left unexplained, a reconstruction of the case is then feasible. To try to explain *all* desert varnish from the examination of a single example was a fine way to "get nowhere fast." I decided to con-

centrate on the desert varnish of the Mojave and consider the other occurrences as separate cases.

For a starting point, I found a good locality near Stoddard's well, south of Barstow, California. This trek to Stoddard's is just a nice day's trip from the Los Angeles metropolitan area, if you can get started early enough. You can take in Calico, Odessa canyon and some other points of interest and still get back in the evening. I always like to camp out overnight and make a two-day trip of it. Stoddard's well is a fine place to camp and there's no better water in the desert. Things sometimes come here to drink at night and some of the larger species snort, but they all seem to be perfectly harmless. Wild burros perhaps!

At a point just 1.7 miles north of the well, on the left side of the Barstow road,

the varnished rocks occur in several places on a pebble mosaic which looks as if it had been carefully rolled out flat and then oiled by someone who treated a few spots and then moved on to a new project. Some of the black areas are only a yard across, or even less. All have a circular outline. Where two of these circular patches run together at their margins, 8-shaped areas result. This effect, which was exactly like the spreading of two grease spots on a pair of Sunday trousers, gave me my chief clue. It indicated radiation—something had started at a central point and then spread outward in all directions.

Examination of the types of rock within these varnished patches merely emphasized what had been found true elsewhere: they were of many different kinds. The varnish itself consisted of a black or dark brown stain which in some cases was thick



This photograph shows the sunshine reflected from the varnished black rocks on Black mesa, north of Ogilby, California.



Stoddard's well, one of the best known watering places on the Mojave desert south of Barstow. Wild burros come here for their water at night.

enough to be called a crust. This generally coated only the upper surfaces and sides of the rocks and ended at the groundline, where it showed a tendency to fray out in tiny tree-shaped branches like the markings in moss agate. This moss-like pattern is termed *dendritic* and always indicates that something has been thrown down from solution.

I collected about a hundred pounds of rocks from one of the pebble mosaics, both from the center and from the margin. These were brought to the laboratory and "made to talk." The varnish is insoluble

in water and alkalies, but easily dissolves in acid.

Chemical analysis showed that it consisted mainly of iron, manganese and some minor constituents like silica, lime, magnesia and organic matter. Its composition was identical on all the samples examined. My next step was to analyze the inside of the rocks on which the varnish occurred. This began to get me somewhere.

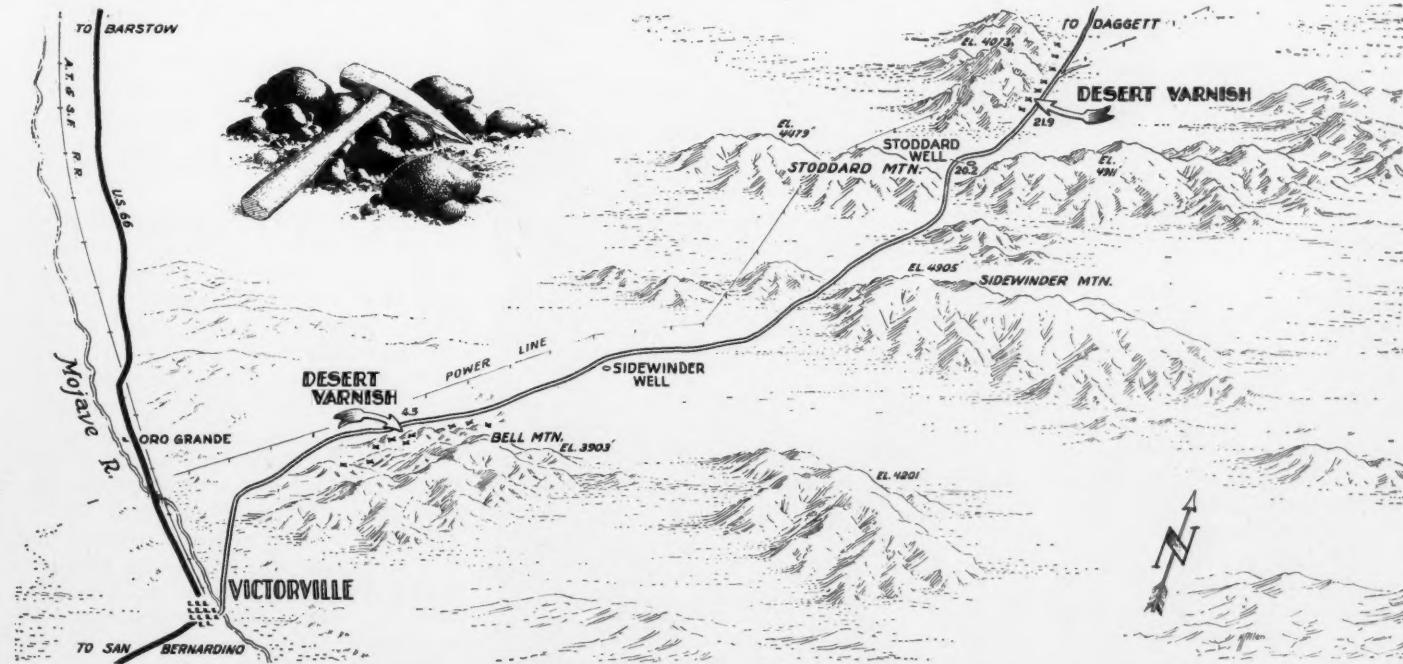
Many of the rocks which were nicely coated consisted of practically pure quartz without even a trace of iron or manganese

in their makeup. Others, especially the dark rocks, sometimes contained much of these elements.

Samples from the center of the coated areas as well as those from the margins were subjected to careful microscopic examination. The ones from the center didn't tell me much more than I knew already, but those from the margins showed me a new feature. On practically all of these last specimens there occurred scattered clumps of tiny, biscuit-shaped, black particles which were frequently linked together in chains and branching clumps.



Desert varnish on pebble mosaic. The highly reflecting surface of the coated pebbles causes the black mosaic to photograph white.



Desert varnish occurs generally over the desert. This map shows two of the most accessible areas where it is found on Mojave desert.

The particles were so small that on a dark rock they might easily be overlooked, but on light-colored rocks a magnification of 30 diameters showed that whatever they were, they frequently were coated with a black crust themselves. They never occurred within areas where the rock surfaces were entirely covered, but where some fresh rock was available.

I scraped off some of this powder until I had accumulated a sample about the size of an average flea and made a microchemical analysis. You do this entirely under the microscope. It's very interesting, but hard on the eyes. This approach to the subject showed me that I was dealing mostly with organic matter and smaller amounts of iron and manganese. When the black coating had been dissolved off, the biscuit-shaped particles stood revealed as the living perpetrators of *dunkel Rinden*. It was definitely a lichen, one of those plants that likes to grow on rocks without any subsoil. I now had enough evidence to make an arrest.

This plant has a long record. In the first place lichens are not simple, honest plants like cacti, palms or orange trees, but are a partnership of two plants that have gone into business together. One is a fungus (mould), the other is an alga-like pond scum. The fungus furnishes protection and the alga does the work of utilizing

the sun's energy for manufacture of food materials which it shares with its partner. Between them they do a lot of erosion of rock and similar substances. Some of the old glass windows in England have actually been corroded by lichens. Some rocks are no problem at all to this plant combination. One observer, De Barry, who made a long study of the lichens, noticed that they had a way of absorbing iron and manganese compounds which finally incrusted the lichen itself. I finally succeeded in growing the lichen on glass plates by using a culture-medium containing iron and manganese which eventually caused a deposit of desert varnish right on the glass. After I put the pieces of this "mystery of the sunburned rocks" back together again it worked out like this:

This particular lichen (I wanted to name it "Parmelia dunklerindogens Laudermilkii" but the experts wouldn't do that even to a low grade organism) attacks rocks which contain iron and manganese. The lichens keep on absorbing these materials until they defeat their own ends by using up all the raw rock surfaces (something like filling your house up with sardine cans and moving into the garage). The lichen moves out to the margin of the deposit and repeats its old error. The ancestors that get stranded without anything to eat, surrender. The

rainy season comes along and these colonies decay. Iron and manganese compounds pass into solution. They are carried out from the general area and reprecipitated on the surrounding rocks, which accounts for the presence of desert varnish on rocks that have no iron or manganese themselves. This sort of thing continues year after year and century after century until the rocks are all coated. During the summer they get a terrific baking in the sunlight until they finally get toasted to the hue of universal melancholy they ordinarily show.

A more callous exposition of the desert varnish case can be found in Vol. XXI of The American Journal of Science. This may sound forbidding, but being a scientific paper of sorts it can be understood by anyone of ordinary intelligence—otherwise I could never have written it myself.

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STORAGE IN LAKE MEAD REACHES ALL-TIME RECORD

The spring flood of the Colorado river in the last 10 days has added another million acre-feet of water to Lake Mead above Boulder dam the world's largest man-made lake, bringing the storage in excess of 28,000,000 acre-feet, the highest peak ever reached, Commissioner John C. Page, bureau of reclamation, informed Secretary of the Interior Harold L. Ickes on June 2.

Simultaneously other southwest irrigation and power projects are enjoying ideal water conditions. For the first time in 21 years the Roosevelt dam reservoir of the Salt River valley reclamation project in Arizona is at capacity with 1,953,793 acre-feet in storage. The Alamogordo dam reservoir of the Carlsbad reclamation project in New Mexico filled last week and has been spilling 5,000 cubic feet per second since.

The tremendous Boulder dam reservoir, rising since February 1, 1935, is now about four-fifths full. It is 115 miles long, 544 feet deep and covers 142,000 acres. Its ultimate capacity is 32,249,274 acre-feet, and depth 589 feet.

Sufficient water is stored in Lake Mead to provide every man, woman and child in the United States with 67,000 gallons, nearly a 27-year supply for the city of New York. The storage would cover one-sixth of the nation one inch deep.

Water is flowing into the reservoir at the daily rate of more than 100,000 cubic feet per second, equivalent to a third of a gallon per hour for each person in the land. The maximum, 119,000 cubic feet per second, was reached on May 17.

Water is being released through the dam at the rate of 27,400 cubic feet per second. The ability to store spring runoffs and other flood peaks in the big lake makes it possible to prevent repetitions of early-day catastrophic washouts. This is the flood-control feature of the Colorado canyon project.

Out Where the Buffalo Roam . . .



Picture shows three of the buffalo just after they were released from the special crates in which they were shipped.

By JOHN SIMONSON

Through the interest of state and federal officials and wildlife sponsors, 18 buffalo were liberated from their crates on the San Rafael desert near Jeffrey Wells at Flat Tops in southeastern Utah in April this year.

The buffalo were conveyed by truck from Gardner, Montana to the San Rafael desert. All were from Yellowstone park. Special crates were constructed by the CCC camp at Green River, Utah for the animals.

The San Rafael desert covers many

square miles. It is bounded on the north by the San Rafael river, on the east by the Green and Colorado rivers with the Muddy and Dirty Devil rivers to the south and the San Rafael Reef on the west.

This area has been officially dedicated as a wildlife sanctuary. Mountain sheep and antelope have long enjoyed the freedom of the region. Every effort will be made to protect the animals and give them an opportunity to multiply on the open range.

In the days before sheep were as plentiful in the Navajo country as they are now, the women of the tribe obtained their wool yarn by unravelling cloth they obtained from the traders or other sources. Some beautiful blankets were made, even in those days, and among them the Bayeta which is so prized by collectors today. Here is an unusual story of the discovery of one of these rugs by an American woman who recognized it in a humble Indian dwelling—and received it as a gift.

'Not good now, too old!'

—The Story of a Navajo Bayeta Rug

By MRS. K. P. FREDERICK

AN Indian blanket lay before a smoky fireplace on the floor of a humble Indian home in northern Arizona. Its colors were dimmed by the soot and dust of years.

Mrs. J. D. Young and her husband went to the home for shelter from a torrential autumn desert storm. Her eye sought the fire. She saw the blanket. Only one who had often visited the Navajo country and who had learned to love the beautiful weaving of these tribesmen could have recognized the filthy rug for the rare Bayeta that it was.

"I was so excited I could hardly restrain myself," she said, in recalling that event of 20 years ago.

"I forgot I was cold and drenched to the skin. I forgot I was hungry. The dinner plate set before me might have held sawdust for all I knew. I couldn't keep my eyes off that rug. I wanted it as I had never wanted anything before. Mentally I was pawing over the contents of my grandmother's heirloom jewel box at home in Texas. What were antique rings, brooches and ear drops beside a real Bayeta rug? Did I have enough to buy that begrimed work of art? I edged over to the fireplace. I could scarcely bear to step on the rug. I wanted to cry out against the sacrilege of its defilement by filth, to wash it clean again, to restore the fine coloring I knew was there.

"Two days we waited out the storm, two days of longing. I was afraid of offering the wrinkled little Navajo woman too much or too little for it. Afraid she wouldn't sell it at all. At last it was time to leave. My husband bought one of the many bright blankets they had for sale. I still didn't know whether to offer her five dollars or five hundred. I took a long breath.

"That rug by the fireplace," I began, trembling.

"You like?" Surprise flooded the placid face of the Indian woman, "I give it to you."

"Oh! No." I protested, "I want to buy it. How much?"

"No. No." she laughed, shaking her

or maybe more," said Fred Harvey to whom Mrs. Young took her now beautifully cleaned rug for appraisal.

"The two burned holes and all—it's worth any sum a collector may offer you. I'll give you \$1000 for it myself. Any time," he added.

But Mrs. Young did not want to sell, not then or now and as each year is added to the "maybe a hundred or more," she prizes it more highly.

She can visualize the little brown artist who a century ago set up her crude loom in the scant shade of a desert tree, to unravel the bright red baize cloth from England, respin it on her primitive spindles to weave with the other bright yarns she had painstakingly made from her own sheep. Those yarns of strong fibre, of good sturdy wool she had colored with dyes boiled and pounded out of the shrubs

head and brushing the air with her little brown hands deprecatingly.

"Not good now. Too old."

Too old!—"Yes, about a hundred years



Mrs. Young found this rare Bayeta rug covered with dust on the floor of an humble Indian home. Later she refused Fred Harvey's offer of \$1000 for it.



Mrs. J. D. Young points out the fine texture of her Bayeta. The materials woven into this rug are no longer available for the Navajo.

and plants that fought to live in the sun-parched sands about her.

She had no yardstick to measure the width or length of her blanket, no color chart to go by, no pattern except her own mental picture to follow. Day after day, month after month, patiently squatting before her loom her fingers worked color and design into a beautifully balanced, harmonious whole. To her, perhaps just another blanket for her household needs, to hang up for a door to keep out the winter winds or the sand storms, or for a cover, or a rug to walk upon. To us, a marvel in texture and weaving, rich in color and high in artistry.

Bayeta blankets or rugs represent the golden age of Navajo weaving. They were made during the years from 1800 to 1860 and even before that. But none since, for the red English cloth used in them stopped coming to the United States by that

time. No two are alike in pattern or color combination. They reached a high point not since equalled. Age has not dimmed their colors, only enriched and mellowed them and many are as bright as ever. The texture of their weaving is firm and even, rather silky but hard, the same on both sides as is the pattern of the rug.

Gradually the Indian weavers abandoned their own vegetable dyes for the white man's aniline dyes. The task of making native dyes from plants was long and laborious. Why should they do that when they could buy a package of dye at the white man's store for so little? Too, they began to use Germantown yarns instead of those made from their own sheep. The sheep too became mixed with the white man's breeds and the fleece became oily. Cotton was substituted for the warp.

All of these things changed the weaving and the product of Navajo weaving

and spelled the doom of the beautiful Bayeta. Bayetas were no more. Like the wild pigeon and the buffalo, they have given way before the destroying civilization of the white man, never to flourish again. Those in existence are rare indeed.

Few remain in the hands of private individuals. The others can be seen in the collections of the American Museum of Natural History in New York City; the Fred Harvey collection at Albuquerque, N. M.; the A. C. Vroman collection at Pasadena, California; the Metropolitan Museum of Art; the J. L. Hubbell, George Wharton James, Dr. Washington Matthews and a few smaller collections such as the Los Angeles Southwest museum.

The name Bayeta probably originated from the Spanish name for baize, the cloth made in English mills and taken to Spain to use as a trading medium with the Indians of America. Red was the prevailing color though there was also a blue and a blue green as well. One authority on Bayetas says that the red came from Turkey, but this has been disputed as has the theory that the blue green was the unravelled and respun material of the Union soldiers' coats of the Civil war.

A bright red vermillion dye was always a problem to Navajo dyers, so this well spun, flexible and sturdily woven baize cloth was avidly sought by the Indian women for their weaving. It sold for six dollars a pound.

Bayetas at the time of their production probably didn't sell for very much, but in the last 50 years they have sold for as high as \$1,000 to \$2,500. Many of the handsome "chief" blankets were made of this material combined with the best of native wool and finest of dyes. They were woven crosswise instead of lengthwise.

Mrs. Young's Bayeta is especially well balanced and harmonious in color, proportion and design. Its lines are clean and true. Its colors are white, rich black, blue green and a soft lovely shade of yellow like a slightly toasted golden rod. The vermillion red is still bright though mellowed by age and use. The red is the background of the rug.

The rug is a little over six feet long and about four wide. Its close beautiful weave and its exquisite workmanship can be clearly seen in the accompanying picture.

Now instead of being trod underfoot by dusty moccasined feet and left to be soiled by the grime of the black fireplace and covered with the clinging hair of a mongrel dog, this priceless Bayeta adorns a wall of Mrs. Young's Texas home, where its unfading beauty and marvel of weaving may be seen and appreciated by lovers of real art treasures.

Who knows but that in some far off spirit land, a little Navajo woman looks down and smiles on the white woman who so loves and desires to perpetuate the gorgeous work of her hands.

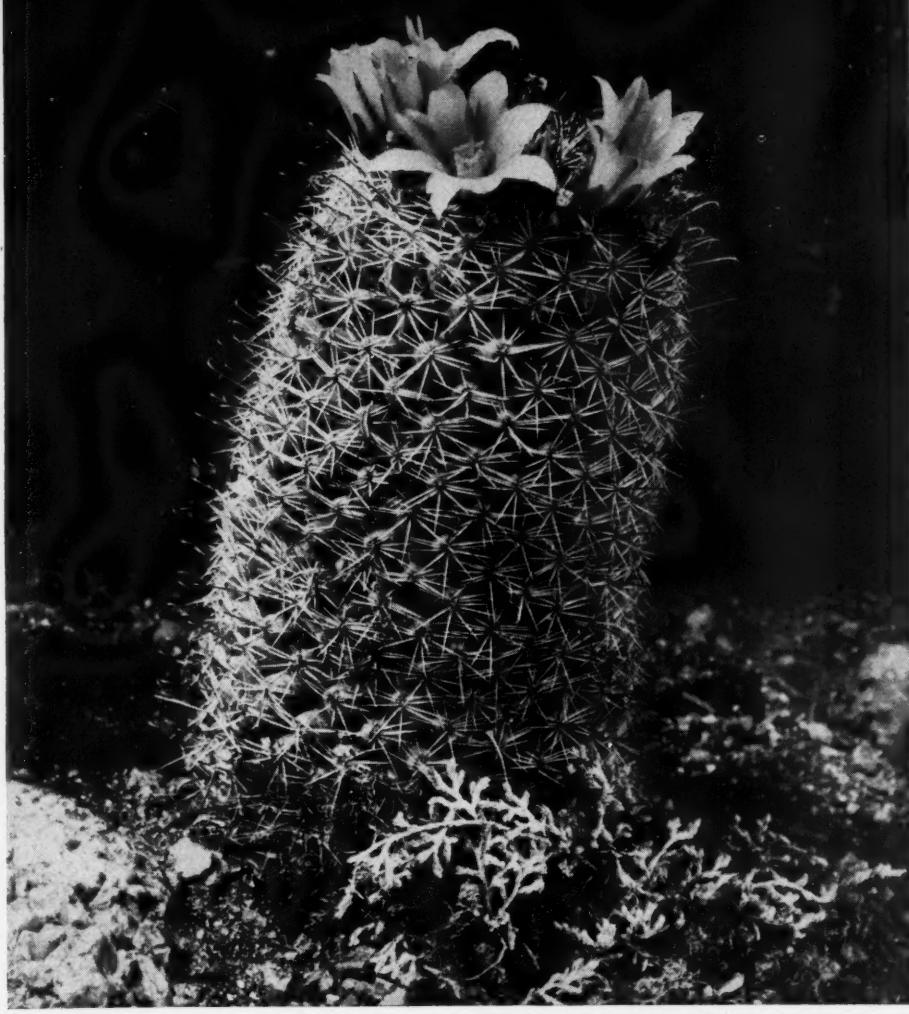


Photo taken by the author shows a specimen of Fishhook cactus growing just south of the Mexican border among the coastal lichens.



Mammillaria dioica

By GEORGE OLIN

THOSE who are familiar with the desert hills along the western borders of Borrego valley in the Colorado desert will recognize the cactus illustration as that of a small cactus common on the slopes. One of its common names is fishhook. Others call it strawberry. This little species has proven itself adaptable to two distinctly different climatic conditions, for it is even more common along the rugged coastline from San Diego south into Baja California. With such a variation in range and type of climate the plant should vary greatly in appearance;

and it does, but certain characteristics serve to identify it positively when found associated with the other small cacti of extreme Southern California.

The two plants with which it might be confused when found in the Borrego desert are *Phelosperma tetrancistra* and *Mammillaria microcarpa*. The latter is not listed as a native of this locality but is named because of claims that it has been seen along the grade down Carrizo gorge. The one characteristic which positively identifies *Mammillaria dioica* if found with either of these is that it has

numerous small bristles in the axils of the tubercles. These are entirely lacking in both the others. If found in flower, identification is even easier because *Mammillaria dioica* has a yellowish flower while the other two have pink blossoms.

Mammillaria dioica is a small plant which may be either solitary or clumped. Single stems will sometimes grow to a height of a foot or more. When clumped the stems are usually much smaller in size but clumps with 15 heads are not uncommon.

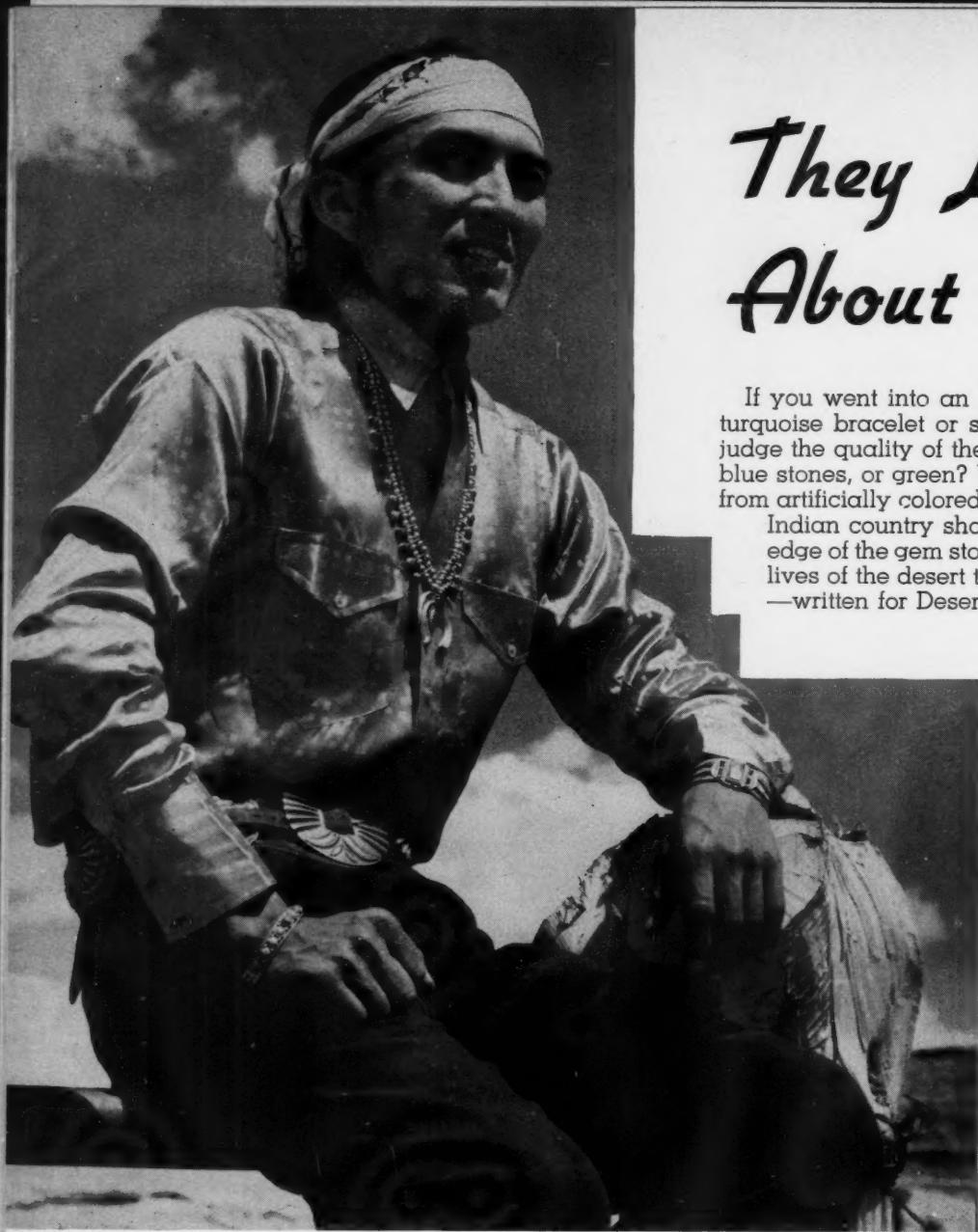
The tubercles ascend the stems in spiral rows and are tipped with about 15 radial spines and usually 3 or 4 hooked centrals. The color of the spines varies greatly with the locality in which the individual plants are found. On the desert side of the coastal range the radials are a silvery white and the centrals almost a jet black. Along the coast the radial spines are grey and the centrals a deep reddish brown. The axils of the tubercles bear some wool and a few setose or bristle-like spines.

The flowers of this plant are of particular interest. The species name is derived from their dioecious habit—that is, many individual flowers will have only style and ovary or only stamens and pollen. This is an unusual occurrence in the cactus family and is worth noting if the plant is found in bloom. The flowers are rather showy. Their color varies from a pale cream to yellow. Each petal is striped with a purplish midrib. They grow around the upper part of the stems and are followed some months later by scarlet club shaped fruits. These are slightly acid in flavor and are greatly relished by the birds and rodents.

Mammillaria dioica has a wide range. It is found in great profusion in northwestern Baja California and follows the coast line to above San Diego. On the desert side of the coastal range it can be found as far north as the Palms-to-Pines highway above Palm Springs. Particularly beautiful specimens may be found near Warner's ranch. These are almost pure white with black centrals.

This plant adapts itself readily to cultivation but it is raised so easily from seed that it is a mistake to collect wild plants. Dealers can furnish nursery grown seedlings at a nominal price which will prove far more satisfactory.

• • •
Directing activities of the Long Beach cactus club for the current year are Mace Taylor, Jr., president; R. S. McGaughey, Larry Butler and W. H. Anderson, vice-presidents; Milo D. Potter, Homer G. Rush and George Miller, directors; W. H. Anderson and M. J. Armstrong, directors of the specimen garden; J. F. Kaufman, corresponding secretary; W. S. Bell, secretary-treasurer.



At work or dressed up for his ceremonials, the Navajo is never without his silver and turquoise. Copyright photograph by D. Clifford Bond.

By BETTY WOODS

INside the dark little trading post the tall Navajo leaned on a pile of Indian blankets watching the tourist cars whizz past at a rate that worries the insurance companies. With his black eyes on the highway, he liked to smell the mixed odors of leather, groceries, dry goods and sheep hides that hung heavy in the narrow, cavern-like room. An aged Indian in calico breeches and gray velvet blouse was studying the bright confections in the candy case. After a while he would make his choice.

On the rough plank floor other Navajo lounged, wearing huge cowboy hats. They had come to trade and to watch the white people, although few tourists who came into the store were conscious of their scrutiny. Outside on the porch more Indians stood or squatted. When a large cream-colored roadster came to a stop in front not a Navajo seemed to notice it.

The tall man inside never moved his position by the pile of blankets. In fact, he did not stir until a young woman's voice asked, "Please may we see some turquoise?"

"He probably won't understand a word you say," remarked the blonde girl's mother.

"We have beads," said Tom Begay, reaching for the finest string in the showcase, where rings and bracelets as well as strands of turquoise were on display.

"Why you do speak English!" exclaimed the older woman.

"Yes," returned the man in the purple velvet blouse.

"Mother!" cried the girl in cool green dress, "Look at them! They're lovely."

While Tom waited patiently for his customers to examine the beads his eyes rested on the girl's corn-colored hair. Tom Begay had never ceased to wonder at light hair. To him and to most Indians, it was

They Learned About Turquoise

If you went into an Indian trading post to buy a silver and turquoise bracelet or string of beads would you know how to judge the quality of the gems shown to you? Would you select blue stones, or green? Would you know good quality turquoise from artificially colored rock? Every vacationist who goes to the

Indian country should have at least an elementary knowledge of the gem stone which plays so important a part in the lives of the desert tribesmen. Here are some of the answers —written for Desert Magazine readers by Betty Woods.

a great curiosity. Not that Tom had never seen blond hair before; as a matter of fact, he had seen many blondes during his four years away from the reservation.

"Tell us about these beads," the girl smiled up at him. "We know nothing about turquoise. Mother likes the green kind; I like the blue best."

"The green reminds me of jade," the mother said to Tom. "Have you ever seen jade?"

"Yes," Tom replied.

"Where?"

"At Tiffany's."

"Tiffany's! In New York?"

"Yes."

"Mother, let him explain this jewelry to us," the girl interposed. Then turning to Tom she said, "Which is the better, the green or the blue?"

"The blue."

"Why?"

"It is very hard."

"Is that all?" asked the young woman.

"It has much matrix."

"But," argued the older woman, "you have a great deal of that greenish kind on display."

"Many white people like it. They do not know the difference. It is soft. It is cheaper."

Tom could have added that it also is easier to work. The Indians prefer to work with the softer stones, yet they usually will select only the bluest for their own personal use when they can afford it. He could have told the two women that the best turquoise comes from the Black Matrix mine in Nevada. He knew, too, that most of the blue stones used by the Indians of Arizona and New Mexico come from several Nevada mines. Three to five thousand pounds annually are mined and shipped to these two states, where four-fifths of it goes to the Indians. Turquoise is sold wholesale at from 10 to 50 cents a karat. Tom could have told the tourists that uncut turquoise sells from \$2.00 to

\$50 a pound and that most bead turquoise is a cheaper grade of stone.

"I'll want a bracelet to match these beads, if I decide on them," the older woman told Tom.

"This one is Indian," stated Tom, holding up a bracelet whose silver work was simple.

"What do you mean by 'Indian?'" the girl wanted to know.

"The design is Indian. The stone is not polished much, like the turquoise jewelry made by white men."

"How interesting!" exclaimed the young woman. "Just how do you know all that?"

"I am a silversmith."

"Oh, you made this bracelet," guessed the mother.

"Yes."

"And you weren't going to tell us," she laughed.

"You did not ask."

Tom's failure to amplify beyond the barest answer to the question asked, was characteristic.

The woman opened her large flat purse, but suddenly she snapped it shut again. Her sharp eyes had discovered two other strings of beads in the showcase.

"Those look very old. Let us see both strings."

Tom showed not the slightest impatience as he handed them over, nor did he make any comment. His gaze never wavered when the girl, who was now holding the single strand, caught him studying her. Would she detect the difference?

"Both strings must be in pawn, aren't they?" asked the older woman.

"No."

"But I can see they have been worn a long time."

"They are new beads, but you can't buy them."

"Why not?"

"The white trader keeps them to show people bad turquoise."

"Well," prompted the thoroughly interested tourist, "what is the difference?"

"This double strand, the stones in it are



Not all the Indian silver work is done by the Navajo. This is Della Casa, skilled silversmith of Zuni pueblo. Photograph by Frashers.

soft. They were cut and dyed in Germany."

"You mean," demanded the confused

woman, "that the beads I am holding came from Germany?"

"Nevada turquoise was sent to Germany. Labor is cheap there. At least it was before the war changed so many things."

"What about these beads?" smiled the girl who was wiping her red-tipped fingers on a dainty yellow handkerchief.

"They were boiled in mutton tallow."

"Why."

"It makes them look old."

Again Tom could have explained that in the beginning the stones were greenish white and that bacon grease or paraffine would have given them the same "old" look. He knew, too, iodine skillfully applied heightens the brown color of the matrix.

"How can one detect such doctored turquoise?" the girl asked, a most pertinent question.

"Hold the beads in your hands. It will



These two bracelets and ring not only show good turquoise but very fine Navajo craftsmanship.

show grease on your white fingers after you hold it. The trader holds it over a lamp," and Tom pointed to an alcohol lamp on a shelf. "It finds dye and grease."

"Is there any other way?" the girl urged him on.

"Navajos put it in the sun."

Tom thought of the time he overheard a white clerk in a gift shop tell a prospective necklace buyer how old a certain olive-green necklace was and that the greasy look it had was due to the oily secretion from the former Indian owner's neck. Of course, the tourist did not know that hard, blue turquoise does not change color even after years of wear. Turquoise beads and ear pendants found in prehistoric ruins are proof of this. Only soft stones change with age or absorb grease.

"I shall take the first string and the bracelet. Now tell me," asked the mother, handing Tom the money, "where did you go to school?"

"To the Indian school, in Santa Fe."

"How did you ever get to Tiffany's in New York?"

"Our Indian show band played in New York."

"Then you are a musician, too?"

"I played the sax."

The old man at the candy counter said something in Navajo; Tom went over and filled a little sack with jellybeans and handed it to him.

"You mean you have been east and you still like it better here?" exclaimed the woman looking around the store. "Everything seems to cling to the past here. If you stay on long enough, won't you become like that old man who just bought the jellybeans?"

"I want to be like him," said Tom with simple dignity. "He is my grandfather."

Tom Begay could not tell anyone that away from the reservation the brilliant canyons and mesas kept pulling at him, and that he was homesick for the sight of his horses and the smell of his sheep. He was hungry for broiled mutton and other hogan cooking and for the companionship of his people; for their customs and his religion.

Tom leaned on the pile of blankets and looked out the window. The girl turned and waved at him as she drove away. He did not wave back; Navajo girls do not wave at men. He had not told the white girl to buy only Navajo patterned jewelry that was strongly Indian in character, nor did he warn her against oriental and white shopkeepers who sell turquoise-set rings and bracelets reputed to be over a hundred years old. Tom could have explained to her that it was in about 1880 near Crystal, New Mexico, that a Navajo silversmith for the first time set turquoise in silver. Tom could have told that little blonde girl this and much more, but he did not.

Why? Because he is a Navajo.

DESERT QUIZ

Here are 20 more quiz questions for the folks who like to test their knowledge of the desert Southwest—or who perhaps would like to add a little to their fund of knowledge. This is not an easy list. It includes geography, history, Indian lore, botany, mineralogy—and you'll have to mix a lot of common sense with the other ingredients to get a high score. The average person will not answer more than 10 of these correctly. If you score 15 you know more than most of the desert rats—and only the super-students will rate more than 15 correct answers. The answers are on page 38.

- 1—Director of the national park service is—
Col. John L. White..... Harold P. Ickes.....
Newton Drury..... Frank Albright.....
- 2—Prehistoric Indians who occupied the Salt River valley of Arizona are known as— Hohokam..... Cliff dwellers.....
Cave dwellers..... Legucharie.....
- 3—The original name given the Rio Grande river by the Spaniards was—
Rio Hondo..... Rio del Norte..... Rio del Llanos..... Rio del Paso.....
- 4—Fairy duster is the common name of a—
Wild grass..... Flower..... Insect..... Indian artifact.....
- 5—The legendary home of the Hopi katchinas is— Grand Canyon.....
Petrified forest..... San Francisco peaks..... Navajo mountain.....
- 6—Philip Bailey's book *Golden Mirages* is written about—
Comstock lode..... Seven Cities of Cibola.....
Desert landscapes..... Lost mines of the Southwest.....
- 7—President of the United States who signed the Swing-Johnson bill providing for construction of Boulder dam and the All-American canal was—
Coolidge Wilson Roosevelt Hoover
- 8—Borrego state park is located in—
Nevada..... California..... New Mexico..... Utah.....
- 9—If you wanted to climb the Sandia mountains you would go to—
New Mexico..... Arizona..... California..... Nevada.....
- 10—First wagon train was brought across the desert Southwest by—
Butterfield..... Lieut. Beale..... Mormon battalion..... De Anza.....
- 11—White Mountain Indian reservation belongs to the—
Apaches..... Navajo..... Maricopas..... Hualpai.....
- 12—Turquoise derives its blue-green coloring from—
Iron..... Manganese..... Zinc..... Copper.....
- 13—Phantom ranch is located in—
Death Valley..... Grand Canyon..... Zion canyon..... Canyon de Chelly.....
- 14—The blossom of the agave or mescal is—
Blue..... Red..... Snow white..... Yellow.....
- 15—The name Moqui used by early writers, referred to the Indian tribe now known as— Acoma..... Hopi..... Zuñi..... Pahute.....
- 16—If you wanted to get a glimpse of the peccaries that still run wild in the Southwest you would go to— Southern Arizona..... Mojave desert.....
Kaibab forest..... Painted desert
- 17—Kapok is the name of a— Well known Navajo chief..... Prayer stick.....
used by Indian tribesmen..... River in New Mexico.....
Silky tree fibre used in filling sleeping bags.....
- 18—Joshua tree is a—
Yucca..... Agave..... Palm..... Nolina.....
- 19—Heard Museum is located in—
Flagstaff..... Tucson..... Casa Grande..... Phoenix.....
- 20—The well known sand dunes along Highway 80 between Yuma and El Centro are properly known as— Yuma dunes.....
Algodones dunes..... El Centro dunes..... Colorado dunes.....

When a kitchen utensil breaks at Yaquitepec, the remedy is simple. Marshal South and his two sons take the trail that leads to one of their clay pits and bring home the materials for new pottery. In their remote desert home on Ghost mountain the Souths have found that Nature supplies nearly everything essential to human life. Their experiment in primitive living has brought them health and happiness.

Desert Home

By MARSHAL SOUTH

BENEATH the ramada, just outside the house, the carpenter bees are booming and bumbling amidst the thatch of dead mescal poles. Away to the east is the morning star, soaring upward like a shining angel above the whitening paleness of the far horizon.

Why is it, I wonder, that on these hushed, early desert mornings I think so much of my father? It is as though the mists roll away from an old, old trail that leads back to childhood. I see him again as he used to be; with his team and buckboard, driving on lonely roads, silent, keen-eyed for the trail in the faint light that wraps the world long before sunrise. Again I hear the slur of wheels through the sand, the strike of steel tires against a stone, the squeak of singletrees and the creak of leather. The swiftly moving hoofs of the team drum back the dead years in memories that bring, now, an odd, choked tightening of the throat as I see again the shadowy forms of the horses—and my father, his eyes upon the dim road, driving on and on into the star studded dawning.

But the droning of the busy carpenter bees breaks through the mists of childhood memories. Busy fellows, these big, shiny black bees. With all the swelled pomposity of some petty official, impressed with his own importance. They are always blusteringly officious. They take possession of the long channels cut in the pithy, dry stalks of the mescal shoots by the big butter-yellow, amber-headed grubs which develop later into the slender, scarlet-winged, dashingly handsome, mescal beetles. The carpenter bees move into their dark, abandoned tunnels. And fall busily to their own carpentering.

From the thatch of the ramada these warm days there drifts a fine scatter of sawdust. And every once in a while, from a neat round porthole in a dead, overhead stalk, some shiny black artisan dumps an extra big accumulation of wood waste down on our heads. It is all right, so long as it does no damage. But at intervals we get an eyeful. Then we say violent things about the carpenter bees and wish heartily that we had not provided them with such an abundance of pithy labyrinths to work in.

This last week we have transferred our breakfast allegiance from wheat to corn—in the Yaquitepec version of the Pueblo Indian *piki*. We make a water-thin batter of home ground yellow corn meal, with nothing added but a little salt, and spill it out on a very hot griddle. The result is a paper-thin, much perforated, lace-like wafer which, as it crisps stiff enough, is whisked from the fire. Cooking *piki* is fun. And eating it is better. With a little butter and honey it is hard to beat. Crunchy and with the delicate flavor of the fresh grain. I don't know if you can make this sort of *piki* with "civilized" corn meal. Maybe so. But *quiero saber*. Civilized corn meal—like a lot of other things—seems to have acquired something of the hard, tinny brittleness of the modern age.

Yesterday the salt-cellar went the way that all things go—eventually. Being home made pottery and not hammered from a block of solid silver (as was the one fashioned in the early days of an Arizona mission for a visiting bishop) ours went quicker and more completely. So it had to be replaced. Investigation of the clay bin revealed that our supply of prepared clay



Tanya South gathers twigs of ephedra or squaw tea. From these a healthful refreshing beverage is made.

was entirely exhausted. "Not even 'nough for not even one very small salt-cellars, daddy," Rudyard reported solemnly as he leaned far into the bin and studied its vacancy intently for at least two long minutes. "But I think that in this corner there might . . ." Then his little brown heels went wildly into the air as he leaned too far. He disappeared into the box with a startled yell.

After he had been duly rescued and comforted we set out for our "clay mine." This is some distance from the house. There is plenty of clay on Ghost mountain, as is natural in a district of much weathered granite. But it is patchy. Some deposits are too full of impurities, or too shallow, to be of any use. Every once in a while we run across a good spot. Then we mark the place and draw our supplies from there until we have worked it out.

The three of us—Rider, Rudyard and I—carried containers in which to pack home the clay. Graduated according to the size and strength of the bearer—after the time honored example set by the Three Bears. Rudyard cannily selected an empty baking powder can. Hefting it appraisingly, and with much wrinkling of his pudgy little nose, he declared he would "bring home plenty heavy enough for Rudy." Rider, however, had to be dissuaded from totting along a basket as large as my own. He is doggedly ambitious to be all grown up and it is hard sometimes to keep him from overtaxing his strength. We compro-

mised finally on a smaller basket—and my allowing him to carry the light shovel as well.

The trail was thick-bordered, and in places almost obliterated by the herbage that was the result of this year's exceptional rains. But the grass now was all dry and tawny brown. It rustled beneath our bare feet and in the thin shade of it foraging ants hurried busily upon their duties. The wind that came down from among the rocks and junipers was warm and drowsy and the yellow flowers of the late mescals swayed against the blue desert sky like the last tattered banners of the retreating hosts of Spring.

Away up on the ridge somewhere a sleepy road-runner intoned at intervals his puppy-like whining call. A buzzard wheeled overhead and two garrulous desert ravens flapped heavily. And down by the old mescal roasting hearth, where the trail skirts the blackened ring of stones where we usually fire our clay pots, we came upon a plump little horned toad fast asleep upon an ant nest. But no ants were visible. Those that had not already been picked off by the artful little marauder were keeping discreetly underground. Sun warmed and drowsily content, with a full tummy, he had succumbed to pleasant dreams.

We reached our destination and dug our clay, first carefully

clearing out the accumulation of dead sticks and gravel that the winter storms had piled in the shallow depression. Then homeward. The human head is a good, and natural, place to carry a burden. In Indian file, so laden, we made our way back, Rudyard in the middle of the line, Rider bringing up the rear. Presently a stifled chuckle made me look back. Rider was sputtering with suppressed laughter, and pointing. But Rudyard, oblivious of the merriment, plodded stolidly on. He had hoisted his tiny baking can full of clay to the top of his head and, with plump little arms much too short for the job, was holding it there. His face was set in lines of grim determination, as of one who performs a serious duty. And there was satisfaction there, too. Was he not doing exactly as we were? He looked so funny that I turned away quickly. To have let him see me laugh would have been unforgivable.

And so we arrived home with our clay. And duly ground it and sifted it and made us a new salt-cellars—and several other things as well. Rider made a special little vase for himself. And so did Rudyard—or at any rate he got himself nicely mussed up with mud. Which is almost the entire joy of "potting" when one is three years old. So everyone was happy.

The garden grows. It is a tiny garden—the most of it protected by muslin covered frames. The beds are microscopic. But we have more water in our cisterns this year than last and the green stuff forms a welcome addition to the diet. Right now we have chives and pinto beans and bush beans and lettuce and scarlet-globe radishes growing. In the warm, sunny days one can almost see the plants grow.

We spend much of our time beneath the shade of the ramada these days. Here there is shade without walls and the little wandering breezes from out the wastelands can come and go as they please. It is a cool place to eat, too. Victoria is especially fond of it because there are generally fascinating little lizards to be seen wandering about on the top of the low, bordering adobe wall in search of flies. Some of these turquoise studded little rascals grow very tame. One, this noon, sat and glinted trustful jewelled eyes at me as I gently stroked it under the chin with my finger. They grow saucily insolent, too. There is one in particular that makes a point of scampering over Tanya as she lies on the rug in the shade, putting Victoria to sleep. Tanya does not particularly mind being scampered over. But the other day when the same inquisitive little sprite, breathlessly driving for a fly, tumbled into her paint pot as she sat decorating a desert gourd, she almost said something—very loud. She got up so suddenly that she upset Rudyard, who fell against Rider, who was sewing a basket with mescal fibre. And in the wreckage his prize wooden needle got broken.

So, as there had to be another needle, we raided the nearest juniper tree for a likely twig, and whittled out a new one. Reflecting, as we sat there in the drowsy shade, about the long, long road humanity has trodden from the time of the first primitive wooden needles to today's roaring machines. A long road. Humanity has lost something during that long trek. Something of incalculable value; something the loss of which is now driving it into insanity and red ruin. It has lost the knowledge of how to live. It has lost its faith. It has lost its sense of kinship with the Great Spirit. Dazzled by a greed for material things it has sold its birthright for a "mess of pottage." Pottage that is now, alas, red with torrents of blood.

Not a cheerful line of reflection. As we sat there in the peace of the silent desert, whittling upon our primitive needle, there came back to us a fragment of Kipling. Just a fragment. But a grim one. And aptly descriptive of humanity's gleanings on its march of "Progress."

"... The worst we took; with sweat and toil. The best we left behind."

*How close, how close are Life and Death,
And Truth and Falsehood, Light and Dark.
So close that in each life's full breadth
Each light and shade may make its mark.*

—Tanya South

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The Desert Magazine



Adams and Landreau headed south after the massacre and were picked up in an exhausted condition by a scouting detachment from Kearny's army.

Here is a lost treasure story that appears to have an authentic background—and yet the man who originally found the rich diggings was never able to return to the place of discovery. John D. Mitchell has presented here the meager information available—you can draw your own conclusions.

Lost Adams Diggings

By JOHN D. MITCHELL

As nearly as can be ascertained the place where Adams and Landreau were rescued was about 25 miles northwest of Silver City, New Mexico. It was to this place that Adams came in later years, and he was often seen in that region.

The fact that the two men had traveled south after the massacre would indicate that the rich deposits were located near the headwaters of the Black river, but Adams had only a hazy recollection of the days when he and his companion wandered, exhausted and fearful of the Indians, from the scene of the attack.

Adams died at the age of 93 without relocating the gold. The search has continued to this day and more than one man has lost his life on the trail in quest of the lost diggings.

If the story is true, the buckskin pokes, heavy with \$60,000 in gold, still rot beneath the ashes of the old cabin floor. No doubt the place is now overgrown with vegetation, and only by mere accident will the treasure be recovered.

LIEUTENANT W. H. Emory, in his Notes of a Military Reconnaissance from Fort Leavenworth in Kansas to San Diego in California, published in 1848, states: "The Prieto (Black) river flows down from the mountains freighted with gold. Its sands are said to be full of the precious metal. A few adventurers who ascended the river hunting beaver washed the sands at night when they halted and were richly rewarded. Tempted by their success, they made a second trip and were attacked and most of them killed by the Indians. My authority

for this statement is Landreau, who, though an illiterate man, is truthful."

Adams and Landreau headed south after the massacre and were picked up in an exhausted condition by a scouting party from the Army of the West, near the headwaters of the Gila river. After the lapse of 20 years Adams returned to the Apache country and tried to relocate the ruins of the log cabin and the corral that he and his former partners had constructed near the rich diggings. The object of the search was about \$60,000 worth of gold dust left buried under the cabin floor and the narrow gulch from which the gold had been washed.

Adams organized several expeditions to search for his old workings and was well known around Fort Wingate, New Mexico, where he purchased provisions and equipment for his many trips into the wild country to the southwest of the fort.

CALIFORNIA

NEEDLES . . .

Surprises will reward you every mile of your trip when you travel via Needles. Whatever your vacation or recreational desires may be you will find it here. Explore canyons, caves and old Indian trails; hunt for gems and minerals in nearby gem fields; joy fine fishing, swimming and boating on beautiful Lake Havasu; you would enjoy the thrills of discovery by all means come and visit Needles. The wonders of California's desert country are yours!

★ NEVADA

LAS VEGAS . . .

Las Vegas, Nevada, (Pop. 11,000), rapidly becoming the West's most famous play spot. Boulder Dam, Death Valley, Grand Canyon and Southern Utah Parks are immediately adjacent, and combine with liberal laws of Nevada to make West's largest single tourist attraction today.

CALIENTE . . .

Charming Caliente is a logical overnight stop as you travel the International Four States Highway. Be sure to see Cathedral Gorge State Park and Game Refuge . . . in the early morning light and the shadows of dusk. It will be a sight you will not soon forget. Arches and spires are everywhere and at dusk some of the formations resemble cathedrals and skyscrapers. Stop awhile and enjoy Shaw Canyon-Ryan State Park—a favorite camping and picnicking spot.

PIOCHE . . .

For years known as a "ghost town" Pioche is now called, "The town that came back." Pioche is the largest producer of lead, zinc and silver in Nevada. Of interest to all who travel along the International Four States Highway is Cathedral Gorge, just 8 miles from Pioche; OTHILL which boasts 49 graves; 100,000" Courthouse built in 1870. Be sure to see them all when you travel U. S. Highway 93.

• • •

Visit the Hub of the Copper Empire on U. S. Highway 93—ELY, NEVADA—where man and nature join presenting two wonders of the West, the Ruth Copper Pit and Lehman Caves. One, the largest hole in the world, created through the toil and genius of man to produce a vital to the country; the other a series of underground caverns, delicately and tirelessly carved for ages by the artistic hand of nature.

NEVADA

WELLS . . .

- Like the hub of a wheel, Wells lies at the crossroads of four great national transportation systems. Here east-west Transcontinental Highways U. S. 40 and north-south International Highway U. S. 93 meet. Wells is served by Southern, Western and Union Pacific railroads. Also Greyhound and Burlington busses. Here the traveler, hot and weary from desert driving, may plan to rest, assured all during the summer of sleeping through cool mountain nights. Comfortable, modern conveniences—real western hospitality.

★ IDAHO

TWIN FALLS . . .

- Located in the heart of a vast geological paradise, Twin Falls affords tourists, sight-seers and sportsmen a wealth of enjoyment. Mighty Snake River with its towering canyon walls, tremendous spring-fed waterfalls, and other natural phenomena skirts the city a short distance to the north, and nearby are many other outstanding attractions such as the famous Thousand Springs, Sinking Canyon, Craters of the Moon, City of Rocks, Shoshone Falls, 50 feet higher than Niagara, and the Rim-to-Rim Bridge, 476 feet high and nearly a quarter of a mile long.

JEROME . . .

- Gateway to the famous Sawtooth Mountains Jerome is also the headquarters of the Canyon of Ten Thousands Springs Association. Located for miles up and down the Snake River Canyon are tens of thousands of springs coming out of the canyon walls on the north side of the river. Right at our door are some of the scenic wonders of the country. There are several beautiful falls: Shoshone Falls, 15 miles from Jerome are 50 ft. higher than Niagara. Many interesting lakes and rapids of various hues are found. Facilities for boating, fishing, bathing and other scenic and recreational attractions are good.

SHOSHONE . . .

- Headquarters of So. Central Idaho. Hard surfaced highways radiating in five directions. Gateway to U. S. 93 highway via Shoshone Ice Caves, Black Butte Crater, Magic Reservoir and Silver Creek fishing areas, Sun Valley resort and Sawtooth Forest wonderland. Gateway to U. S. 93 — A highway via Craters of Moon National Monument, Lost River fishing area and antelope range. Hub of productive farming area, with unexcelled irrigation supply and complete rural electrification. Farm lands open for settlement. Wool-growing center. Good hotels, cafes, garages, etc.

HAILEY . . .

- Today there remains in Idaho one last place where lovers of true out-of-doors recreation can enjoy a vacation at reasonable cost. Although not a national park, its scenic beauty equals and its fishing, hunting, mountain climbing, and winter sports excel many well-known areas. Vacationists, tourists, fishermen and hunters coming into the Sawtooth country will find Hailey, near famed Sun Valley, a suitable headquarters. Here fishing, be it trout or salmon, compares with the best. Deer, elk, antelope, goat and bear abound in this region.



OR your next vacation trip drive the 1500 miles of broad highway that connects three nations and four states, with an ever-changing landscape that offers the motorist every variation from the forest clad slopes of the Canadian Rockies to the semi-tropical zone of the Southern California desert!

- This is the International Four States Highway, extending from Canada to Mexico, through Montana, Idaho, Nevada and Southern California.

- Famed as the United States is for her scenic roads it is doubtful if there can be found anywhere else on the American continent any other 1500 mile span of highway which offers so wide a range of natural scenic attractions as can be found along this newly created route.

- Intersected by all the main east and west roads the International Four States Highway is the natural route by which the motorist gains access to the beautiful Glacier National Park region of Montana; the entrancing primitive area of Idaho; the gorgeous mountain playgrounds of the Canadian Rockies; the scenic wonders of Nevada and the beautiful, ever-mysterious, ever-changing Southern California desert. Truly this is a route for those who find their greatest vacation happiness far away from the crowded roads.

★ ACCOMMODATIONS AND SERVICE . . .

- While the area covered by the International Four States Highway is uncrowded and unspoiled, the cities and towns along this route are in no sense primitive. Modern accommodations are available at frequent intervals at common sense prices and everywhere the true western hospitality prevails.

- Towns, service agencies and civic organizations along this route are striving to make the highway the most popular with all motorists. For this reason you will find that every effort has been made to furnish the tourist with the best possible service at most moderate prices.

- This year make the most of your vacation dollar. On your trip to the scenic northwest go one way, come back another. Let the International Four States Highway be one of your routes. It's a trip you will not soon forget.

- For more detailed information, points of interest, accommodation or any other question, a note to the secretary of the Chamber of Commerce of any city listed on this page will bring you the desired information.

CANADA INTERNATIONAL

FOUR STATES HIGHWAY

*Built by Modern Engineers
Landscaped by Nature*



U. S. 93

ROAD CONDITIONS

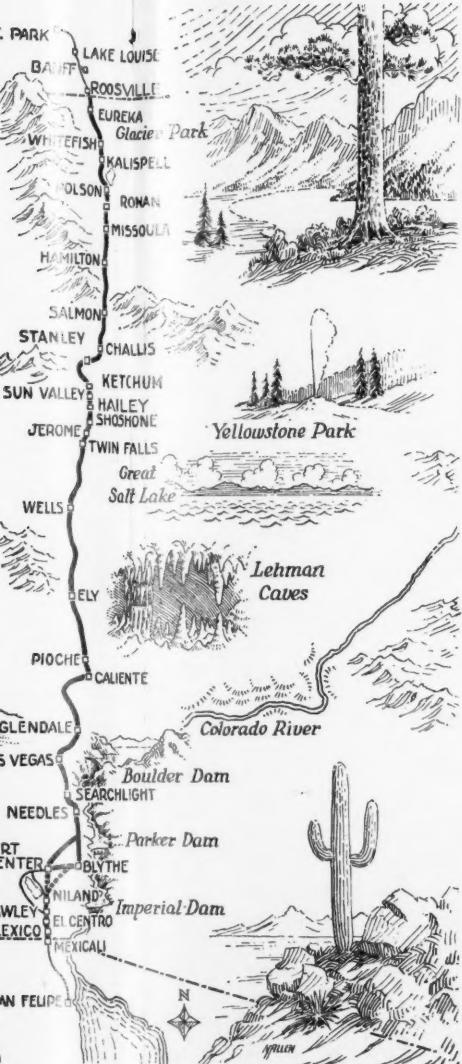
The International Four States Highway, with the exception of two short links, and construction in progress that will provide a concrete and asphalt from the Canadian to Mexican border.

THE GREAT NEW ROAD

INTERNATIONAL MEXICO

FOUR STATES HIGHWAY

*Moderne Engineers
sculpted by the Gods*



93

NORTH FROM
LAS VEGAS

ROAD CONDITIONS

Four States Highway is paved with the short links, and construction work is now well under way to provide a continuous ribbon of concrete from the Canadian boundary to the



Scenic Attractions accessible and along the International Four States Highway.

CALIFORNIA

- Mitchell Caverns
- Colorado River at Needles
- Parker Dam
- Los Angeles Aqueduct
- Joshua Tree Nat. Monument
- Salton Sea
- Mullet Island
- Boiling Mud Pots
- Dry Ice Plant
- All-American Canal
- Imperial Valley "Winter Garden of America"
- Imperial Dam

NEVADA

- Whipple Lime Caverns
- Cathedral Gorge Park
- Beaver Dam State Park
- Ryan State Park
- Lost City
- Valley of Fire
- Nevada's Gyp Cave
- Charleston Park Resort
- Lake Mead
- Boulder Dam
- Knob Hill
- El Dorado Canyon
- Old Searchlight
- McGill Smelter
- Ruth Copper Pit
- Lehman Caves Nat. Mon.

IDAHO

- Miniature Grand Canyon
- Stanley Basin
- Galena Summit
- Sun Valley
- Burning Cave
- City of Rocks
- Craters of the Moon
- Shoshone Ice Caves
- Shoshone Falls
- Twin Falls, Snake River
- Twin Falls' Bridges
- Thousand Springs
- Goose Creek Game Refuge
- Antelope Game Refuge

MONTANA

- Glacier National Park
- Whitefish Lake
- Flathead Lake
- National Bison Range
- Old Fort Stevensville
- Big Hole Battle Mon.
- Gibbon's Pass
- River of No Return
- Salmon River Gorge
- Bitterroot-Selway Area
- Chief Tendoy Monument

IDAHO

SUN VALLEY . . .

• Do stop off at Sun Valley, famous year 'round resort tucked away in the foothills of Idaho's Sawtooth mountains. Here you will find your favorite sport, whether it be ice skating on the outdoor, artificial rink open the year 'round, swimming, tennis, golf, scenic ski lift rides to the top of surrounding mountains, riding, fishing, boating or skeet and trap shooting; and expert instructors are on hand to give you a brush-up if you so desire. Two hotels—comfortable, moderately-priced Challenger Inn and the luxurious Lodge afford all conveniences of modern civilization. For complete information, write W. P. Rogers, General Manager, Sun Valley, Idaho.

KETCHUM . . .

• Ketchum, located in the Sawtooth Mountains, has become the most popular tourist and vacation center in the Western United States. Fishing, hunting and other sports attract thousands of pleasure seekers yearly. One mile east of Ketchum is the nationally known Sun Valley where the Sun Valley Rodeo and National Ski Meet is held yearly. This beautiful back country is easy to reach either winter or summer. Paved highways which are kept open the year round, the U. P. Railroad and a daily stage line furnish a choice of transportation.

STANLEY . . .

• Welcome to Stanley! Once you become familiar with the unlimited wealth of recreational advantages of Southern Idaho, you will agree it's a paradise from every standpoint. You will find this natural fairyland the most enjoyable of all places to spend your vacation because it affords you everything the great out-of-doors has to offer. It's all here around Stanley—a scenic hunting and fishing paradise. TRUE western hospitality awaits you. You are always welcome!

SALMON . . .

• On the "River of No Return." Gateway to Idaho's Primitive Area. THE TOURIST PLAYGROUND, Lakes and streams teeming with trout. Big game hunting and bird shooting during fall months. Delightful mountain scenery. Write secretary Salmon Chamber of Commerce for illustrated map.

★ MONTANA

HAMILTON . . .

• Hamilton lies in the heart of the Bitter Root Valley. On the east is the Sapphire Range of the Rockies, low lying and heavily timbered, offering big game hunting. On the west lies the famous Clearwater country, considered one of the largest primitive areas in the United States. Organized, experienced packers are available at low cost to take parties through this vast wonderland, most of which has never been trod by the foot of man—where game of all kinds abounds and with scenery second to none. We extend to you a cordial invitation to visit us.

MONTANA

MISSOULA . . .

• Missoula is the center of the great recreational area of Western Montana. From Missoula you can drive your car into the heart of the mountain areas. You can climb up above the timber line and gaze over a vast panorama of fleece-tipped mountains. You can spend hot summer days in the cool shade of huge pine and sleep at night under blankets. For a cool, delightful vacation, visit Western Montana. Make Missoula your headquarters, for at Missoula you are near any type of recreation you desire.

RONAN . . .

• The Center City Headquarters of the West's finest bird hunting—ducks, Chinese pheasants and geese. In the midst of colorful Indian Country. Ten minutes from gorgeous Mission Range and Alpine wonders. Twenty minutes from National Bison Range and Wildlife Refuge.

POLSON . . .

• Located foot of beautiful Flathead Lake. Fine fishing, boating, swimming. Best Chinese pheasant area in Montana. Plenty of elk, deer, buffalo and other game. Low cost cabins, camps and dude ranches. Heart of Kootenai and Salish reservation. Want information? Just write to POLSON CHAMBER OF COMMERCE.

KALISPELL . . .

• No other place in America offers recreational advantages, lakes, rivers, forests, mountains and scenery comparable to the Flathead Northwest Montana. Tempered by many lakes, rushing trout streams and rivers, lofty forests and snow-capped mountains, the climate ideal. Outstanding around Kalispell is Glacier National Park, 1,534 square miles forming the most unique and magnificent of all National Parks. Here too is Flathead Lake, and 87 other gem-like lake, 2,186 miles of fishing streams, Dude Ranches, forests and primitive areas.

WHITEFISH . . .

• The vacationist who chooses Whitefish Lake for his summer outing will find himself in the heart of one of the finest recreational areas in the Northwest. He will find abundance of modern cabins from which he may set forth each morning to a new adventure. Facilities for every known sport from golf to all grass, nine-hole course to swimming in Whitefish Lake, are literally at his finger tips. Fishing is uncalled, and catches of Mackinaw trout from Whitefish Lake, average 20 pounds. Many visitors to Glacier National Park make Whitefish their headquarters. For this section boasts the lowest cost-of-living in Montana.

ROAD OF THE WEST

JULY, 1941



Vacation-Land



WHERE TO STAY, RELAX, HAVE FUN

LAS VEGAS, NEVADA

Boulder Auto Court

Located only $\frac{1}{2}$ mile south of city center of Las Vegas — on the main highway to Los Angeles (U. S. 91 and 466)

Thirty Miles to Boulder Dam

Thoroughly Modern Cabins

100% Air-Cooled Electric Heat
Mr. and Mrs. Nick Pahor, Owners

GLENDALE JUNCTION, NEVADA

As you tour along the International Four States Highway, stop in at . . .

Glendale Service

Located just $\frac{1}{4}$ mile from the intersection of U. S. 91 to Utah and U. S. 93 north.

Modern Cafe and Fountain.

One Stop Service for Your Motoring Needs.

Stop in, rest, relax and ask for information about road conditions.

STANLEY, IDAHO

Let the . . .

GATEWAY

. . . Entertain You

Pack Trips — Hunting — Fishing

Cafe — Dancing — Refreshments

Real rustic cabins with cooking facilities and fireplace. Keep right on U. S. 93—Just $\frac{1}{2}$ mi. from Stanley Junction.



APACHE HOTEL

For many years the Apache Hotel has been the center of hospitality in Las Vegas, Nevada. The Apache Cafe is recognized as one of the finest in the West. The Casino is conducted in a dignified manner. Stay at the Apache — the center of social life in . . .

Las Vegas, Nevada

TWIN FALLS, IDAHO

The new . . .

Rogerson Hotel and Coffee Shop

120 rooms. Only hotel and coffee shop in Southern Idaho completely refrigerated and air conditioned.

Coffee Shop Noted for Fine Food.

KETCHUM, IDAHO

Bald Mountain Hot Springs Cabins

Modern cabins and natural hot water plunge. Rustic, comfortable, pleasant. Plain and deluxe. You see it as you enter Ketchum.

STANLEY, IDAHO

Resthaven Cabins

On the Salmon River in the Sawtooth Mountains

Fishing — True Western Atmosphere —Hunting—

Moderate rates—Lower Stanley, Ida.

WELLS, NEVADA

In every town there is one best place to have your car serviced, repaired or to get reliable touring information. In Wells that place is . . .

Supp Bros. Garage

Complete One Stop Service

STATE OF IDAHO

Much of the value of a vacation is found in the change it affords from the routine of the balance of the year. In Idaho, the broad, open plains of the Snake river plateau, the snow-capped Sawtooth mountains and the forest-clad ranges invite you to come and forget the rush and bustle of every-day activities.

The lakes of Idaho are gems set in mountings of granite crags. Wildlife is sufficiently abundant to satisfy, but game enough to challenge your skill. The people of Idaho extend a welcome to visitors that is as western as the odor of crisp bacon, wafted on the smoke of an open fire.

The Idaho State Chamber of Commerce invites you to come to Idaho this year and every year.

HAILEY, IDAHO

Hiawatha Hotel

An 82 room modern hotel with natural hot water swimming pool. Tourists and vacationists enjoy making their headquarters here while in the Sawtooth Mountains. Rates moderate. Quiet, clean and comfortable.

HAMILTON, MONTANA

Hamilton Hotel

. . . Modern . . .

Mrs. Bethel Acuff, Proprietor

Hamilton, Montana

POLSON, MONTANA

Hotel Salish*

Popular hotel on beautiful Flathead Lake in the heart of Montana's scenic wonderland.

Fishing — Hunting — Boating — Bathing
Hiking — Golfing

Dining room recommended by
Duncan Hines

"Where Every Window Frames a Picture"

Polson — Montana

*Salish—Tribal name of the Flathead Indians whose reservation surrounds Polson.



HOTEL NEVADA

Largest and most modern hotel in Eastern Nevada, this 100-room establishment has made Ely a tourist center for a large area. With steam heat and metropolitan type service, "The Nevada" also includes a popular bar, a cafe and a drug store.

Ely, Nevada



Photograph taken at the ghost town of Ballarat, California, by Lucile Gauldin.

RARE PRIVILEGE

BY ELEANOR SMITH REYNOLDS
Roosevelt, Arizona

Yes, I have seen the desert
When the sun was going down;
And I've seen it in the mornin'
When Ol' Sol began to crown
All the peaks of hills about me
With a glory, rich and rare,
That crept down the slopes in beauty—
Like God's love was spillin' there.

Yes, and I have seen the desert
When the flowers were abloom;
And the brilliance of their beauty
Almost proved to be my doom
As they stabbed my heart with gladness—
Actually hurting with their power
To stir my soul within me:
Hypnotize me by the hour!

Yes, and night time in the desert
I have seen and felt. I've thrilled
When it seemed as if the angels
God's jewel-box had spilled:
With the stars so close and shiny
'Cause the air is pure and clear
I have closed my eyes in slumber
Thankful to be privileged here.

MOVING

BY LELA M. WILLHITE
Montebello, California

We're hightailing for a cooler spot,
Blamed old desert's getting hot,
Nights are plenty cool and sweet,
But daylight hours are filled with heat.

And old sol a beaming down,
'S got the grass all seared and brown.
There ain't no fodder for my mule,
And moisture's dried up from the pool.

We're hunting for a shady place,
And any creek which shows a trace
Of where there is a flowing spring;
We're tired of hearing locusts sing.

But we keep track, me and the mule,
And when we know the desert's cool,
Then we pack up and hike for home,
A vowing never agin we'll roam.

Adobe Ruins

BY TENNE SUE LIVINGSTON
Las Vegas, New Mexico

Adobe ruins 'gainst a turquoise sky,
Crumbling walls on a mesa, high.
Sage-sweet breezes loitering near,
Harboring ghosts of yesteryear.
Smokeless chimneys, silent rooms,
Phantom dreams in 'dobe tombs.
Lizards sunning on empty sills,
Blue-jays scolding from cedar hills.
Scouting crows croak day's retreat,
As shadows move on sooty feet.
To merge the daylight into night,
And smudge adobe ruins from sight.

DEATH VALLEY HILLS

BY DELLA PARRENT CLARK
Glendale, California

They stand like heaps of melted rock thrown
high,
With hues of flaming craters winding through,
Their jagged backbones reach into the sky
And veil their harshness with a subtle blue.

Through twisted canyons cut by plunging
streams
The colors weave in desert solitude,
The artist strives to fix their living gleams
In passive oil, and catch their changeful mood.

A million years that mystery has stilled
Have etched their passing on the canyon wall,
And here it seems the Infinite has willed
Man shall not pierce the mist and fathom all.

CREED OF THE DESERT

BY EVA M. WILSON
El Centro, California

No wonder the desert is scarred and
worn
And hot enough to melt!
Poor old Earth has prickly heat
Where she wears her cactus belt.

WE OF THE DESERT

BY MARIAN BRUCE YOST
Indio, California

You've hated this desert for years and for years,
Dust in your nose and sand in your ears.
It's either so cold or blazingly hot;
It's the place where the devil put God on the
spot!

The gnats are so thick, you never stop waving.
Strangers all think, quite fresh you're behaving!
Mosquito formations descend where they please,
You swoop into action; they laugh up their
sleeves!

Now everything's packed and you're ready to
start,
From this blighted desert, you're happy to part!
You take one last look at the sky's velvet blue,
Myriad stars . . . strangely closer to you.

The cool breath of dawn lifts her exquisite
face,
Flushed as a virgin in pageantry lace.
You open your eyes now in wonder to see
Things splendid, as they were intended to be.

Now everything's packed and you're ready to
start,
Quite simply you find that you haven't the
heart.
You've hated this desert for years and for
years,
But, it's got you, I know, for your eyes fill
with tears.

THE DESERT

BY PAULINE AMERSON
Mesa, Arizona

Here all that's real is earth and rock and sky,
For these all are things w/ which cannot die.
This is no strength that bends to human will,
But silence of the ages, deep and . . .
And purple twilight of eternity,
Which clouds this ancient land of memory,
And holds its people close against the blue—
A place where mighty nations never grew,

I took the clouding purple as my own,
And left the world and found myself alone—
With every mountain there a wall too high
For me to see the girl that once was I.
In new made peace, I knew, but did not care—
That life had gone away and left me there.

Fluorescent Opal in Virgin Valley

Some of the finest American opal has come from Humboldt county in the northwestern corner of Nevada. Many of the old claims have been worked out—but attractive specimens are still obtained from the dumps around the quarry pits. Edith and Kenneth McLeod of Klamath Falls, Oregon, went to this opal field with an Argon lamp in quest of fluorescent opal—and here is the story of what they found.

By EDITH MCLEOD



Kenneth McLeod inspects one of the pits where opal is found in the ash strata between rhyolite and basalt.

FOR many months Kenneth and I had talked about a trip to the fluorescent opal fields in Humboldt county, Nevada.

Then, one Friday evening in early summer I announced quite unexpectedly "This is the weekend we are going to Nevada for opal." Not to be outdone by my brusque ultimatum, my husband promptly responded, "Well, what are you waiting for? Let's go!" And so we began stowing the camp-kit in the car for departure that evening.

Leaving Klamath Falls, Oregon, we went south on the Alturas highway along the eastern side of the Modoc lava beds. Fifty-five miles from home we arrived at the "bug station." In all our travels back and forth across the California-Oregon line we have never been caught transporting a single bug. But we do wish California would make up its mind as to what is prohibited from entering that fair state. Sometimes it is lemons, oranges or grapefruit; at other times potatoes, onions, etc. Once we remembered just in time and tossed all our lemons out the car window one by one, only to learn on reaching the

station that lemons were no longer taboo.

We did want our lemons back. But our time was limited—and then we thought how embarrassing it would be if another motorist came along and stopped and asked us what we were looking for in the sagebrush. "Oh, we are just looking for lemons" would be the correct answer—but it would sound rather silly.

From Alturas we took the highway to Cedarville where our paved road ended. It was near midnight and the pass through Warner mountains was beautiful in the light of a full moon.

Our route from Cedarville led east across the dry floor of Middle lake. Collectors who come this way should make the trip in daylight if possible. Not far from the California-Nevada state line is an interesting group of natural limestone cones—left there by ancient springs which bubbled from subterranean channels. They range from 10 to 40 feet in height, are light grey in color and shaped like huge round beehives.

They are the result of years of slow deposition of calcium carbonate by the seeping waters of cold or hot springs that have

long been extinct. Perhaps at one time they were geysers. Occasionally one sees a cone that has eroded enough to expose the hollow center tube through which the water flowed.

Two miles beyond the cones is a fine example of lava dike with its two walls standing high above the surrounding area. We could trace this dike for miles, running north and south across the hills.

Jackrabbits scurried across the highway, a kangaroo rat paused for an instant and then darted away. I dozed and then awakened as we reached a tiny stream crossing the road.

This is Fish spring, and here we camped for the rest of the night. Fish spring has an identifying characteristic all its own. In the water you will see tiny flashes of blue—like the reflection of light on the shiny bodies of minnows or trout.

But it is all a delusion. The blue is labradorite washed down from the cliffs above.

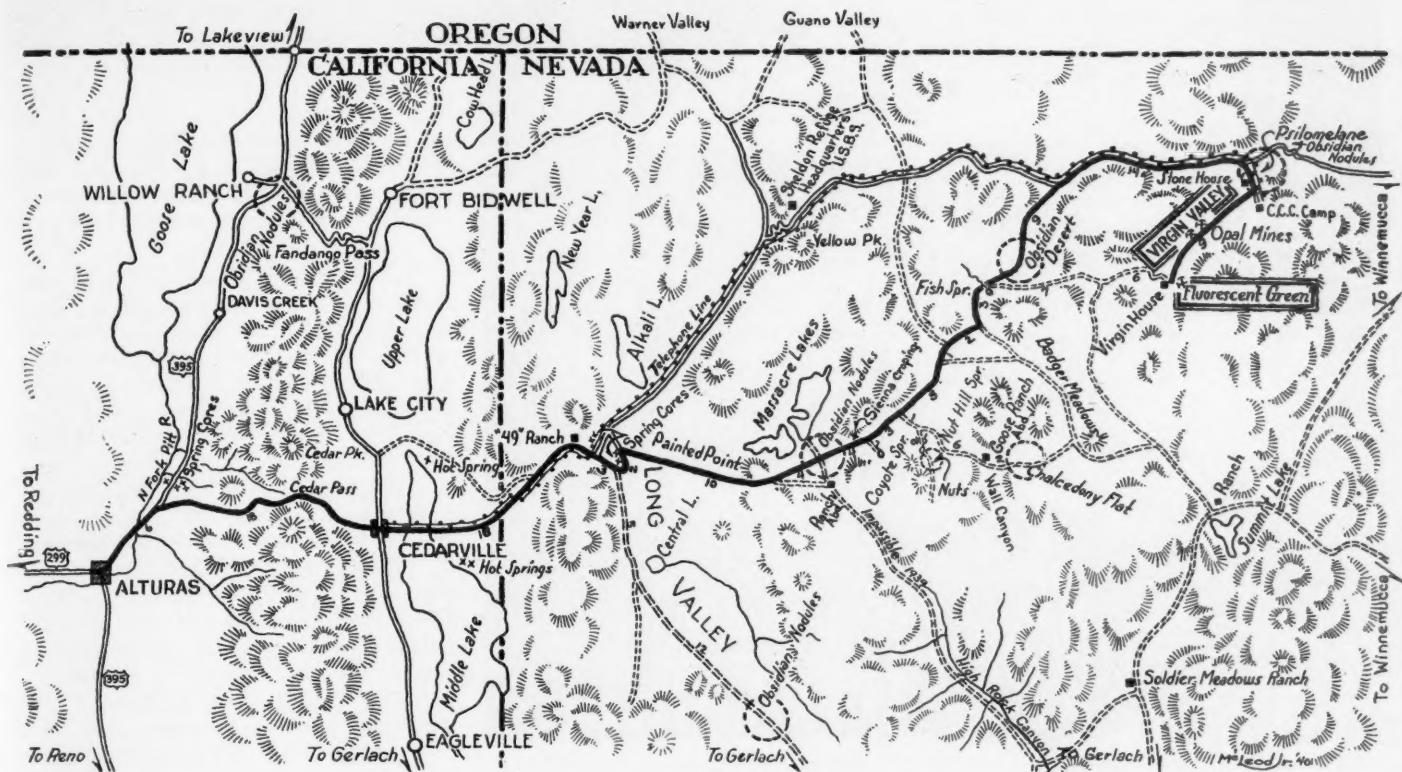
Fish spring is not an ideal camping spot—it is merely a place where you can stop for water, and camp if you like. It is a small spring and stream on one side of a great flat valley surrounded in every direction by low rolling hills.

There are no trees here, and no flowers were to be seen when we visited this place. In fact there are few trees in this entire area. But the absence of good camping places has its compensation—there are no tin cans or dirty paper plates cluttering the landscape.

There are antelope on the range here. Their numbers are reported to be increasing. In former years sage hens were plentiful. But disease wiped them out and one is seldom seen now. Deer are rather plentiful and there are wildcats and coyotes.

Early the next morning we continued along a fair road to Virgin valley where the most conspicuous landmark is a great redstone house in the middle of the upper basin. Just beyond it is a dam across the meadows, erected by the C.C.C. boys.

All this area is now the Charles Sheldon wildlife refuge under the U. S. biological survey. The big redstone house has



been remodeled and serves as headquarters for the government custodians. It was formerly owned by Tom Dufurrena who named it Thousand Springs ranch on account of the numerous springs in the surrounding meadows.

The Dufurrenas, the Arachevaletas, the Miller and Lux cattle company, "Opal Shorty" and "Opal Queen" have all played leading roles in the history of Virgin valley. Opal Shorty, according to the tales that survive him, was a miner and notorious high-grader—a dwarfish figure with great powers of endurance, who thought nothing of walking to Alturas 100 miles away.

Tom Dufurrena gradually acquired most of the range in this area. Later the Sheldon game refuge was established and the government purchased the Dufurrena holdings.

The early Basque settlers here were highly regarded for their hospitality. The government men who have followed them as custodians of this area are inclined to regard visitors as trespassers. Maybe they are right. I do not know what the code of the biological survey prescribes in the matter of dealing with the public—but after all, these men are drawing their pay checks from the public purse.

We traveled part way across the dam, then turned west and then south past low barren hills. Some were capped with burnt looking rocks. Higher up were stratified cliffs and beyond these is a basalt-covered mesa. To our left was a long valley through which runs Virgin creek, and beyond it Thousand Creek range. It is in the

lower part of this range that the fluorescent opal is found. Nine miles brought us to the Virgin House, a four-roomed, wooden structure where the Arachevaleta family lived for a few years. Most of their time was spent at their ranch in the northern part of the valley at the mouth of Thousand Creek canyon. They had a deer park here—a fenced enclosure made of willows eight feet high and covering possibly two acres.

Fortunately the Virgin House is being preserved by the biological survey as a historical landmark. In front is a long row of poplars, and to the west is a barn in which is an old pair of bellows and a stone forge, the like of which will probably never be seen outside of a museum. Here we camped.

For the geologist this is a country of unusual interest. In early tertiary times rhyolite formed the floor of this large area. In Miocene times a vast layer of volcanic ash and tuff 1500 feet in thickness was deposited over the rhyolite. It is perhaps partly aeolian and partly water-laid and lies unconformably on the rhyolite. In still later times a flow of volcanic basalt of about an even thickness of 25 feet covered the ash beds. This flow is unusual because of its great spread, yet uniform thickness. It is called the "mesa basalt." Where this flow came from has never been determined. The basalt capping was the last deposition antedating the cycle of erosion which excavated Virgin valley and Thousand Creek valley and seems to be of fairly recent date—recent as eons go in the vast

time eras of geology—as very little soil has formed upon the basalt capping.

The middle formation, the ash and tuff beds above the rhyolites and below the "mesa basalt," is where occurs the precious opal which has made Virgin valley famous, and here, also, is found fluorescent opal, as well as common opal and opalized wood. In these same beds Dr. John C. Merriam of Carnegie institution and others have found the fossil bones of horse, camel, mastodon and rhinoceros and other animals.

It is generally considered that the greater part of the fire opal is a replacement and that the wood is of a drift type but some believe that there was a partial forestation here. It is true that much of the opal found here and especially the black variety seems to be sections of limbs opalized. However, we do not believe that the fluorescent opal is a replacement of that kind. Many of the precious opal mines are in the eastern part of the valley. Tom Dufurrena stated that opal is found all over the area.

Two years ago we visited with Mrs. Flora Haines Longhead (pronounced Lockheed), who is called by many the "Opal Queen." She doesn't like this title. At that time she was established temporarily at the Virgin House while looking after her claims. She showed us a beautiful specimen of black opal—black with brilliant flashes of red, blue and green fire, the first black opal that I had ever seen. It is a magnificent gem. Mrs. Longhead is in her seventies, a charming and



*The white hill in the center of the picture is where the fluorescent opal was found.
Photograph taken from the Virgin House.*

cultured woman, active and thoroughly interesting.

We intended to do our collecting by the light of a portable Argon lamp. At dusk we crossed the meadow, heading for a little canyon at the south end of the hill. A faint trail led upward in the loose gravel. Near the top we came to a pit. Variegated brown and black opal are here. There was much laying out loose and we sorted it over, picking out the solid pieces that showed pretty markings. One merit of this quarried material is that it has checked all it is going to check. By picking and choosing one can get fairly solid chunks. All Virgin valley opal checks and there seems to be no certain way to avoid it. To the north is another pit, and to the east around the hill a short way are three or four more. We selected the third one as the opal there seemed to fluoresce best and the seams were the widest. This greenish, fluorescent opal occurs along with white and tan translucent and semi-translucent, non-fluorescent opal, in a snow white matrix of chalky looking tuff that is tough and slow work to remove, even with a sharp pointed pick. The non-fluorescent opal was much too pretty to pass up and we took a bit of that. On the dumps, with the aid of the Argon lamp, we found excellent specimens of a smaller size but with a very brilliant fluorescence. We wonder if exposure to sunlight may have caused this more brilliant fluorescence.

To mine the opal we used a geologist's hammer and a chisel. Opal shatters easily, and one must watch out for cut fingers.

Gloves are advisable. Collectors having no fluorescent lamp should pick out the greenish, glassy material as practically all of that fluoresces, though some more than others. After mining out a small pile of material, the gas lantern would be removed and the fluorescent material sorted out with the aid of the Argon lamp. This we carefully packed in Kenneth's knapsack and started down hill, leaving our tools for morning. Sliding, rather than walking, we descended and successfully negotiated all the hazards such as a barbed-wire fence, a pot-hole in the meadow, a ditch, and Virgin creek. Kenneth remarked how much easier it was working at night than in the heat of the day.

In the morning we returned to the mines, if such small excavations can be called mines. There is not enough of this fluorescent opal to collect in commercial quantities, but there will be no objection to collecting small amounts for your own cabinets and to exchange with friends. Most of the mines have reverted to the government through lack of assessment work, but a few of the precious opal mines are still privately owned. These, naturally, will be posted.

We wrapped each piece of opal in newspaper and stowed it in a box well forward in the car. We already had a considerable load of flat stones which we gather each trip to pave an outdoor living room in our back yard, as well as odds and ends of peculiar rocks and "pretty stones" that a rockhound can always see. We pondered the advisability of returning by Fish spring by a shortcut west of

the Virgin House, which saves nearly 20 miles. We had been told by friends this road was very rough, in fact impassable. They tried it and had to turn back. But they have a modern car with low clearance and we have an old Ford coupe for desert travel. We decided to go that way—and had no trouble. Collectors who are not familiar with the country had better stick to the main road, however.

Just why this pale yellowish-green opal fluoresces and the white and tan opal surrounding it does not is a question that no one has as yet answered. Some believe that perhaps the fluorescence is caused by an impurity—but what? On some of our pieces are tiny whitish specks, in what were evidently seams or cracks. These fluoresce very vividly. They look like and show the fluorescent color of willemite (a zinc ore). Our analysis of the fluorescent opal shows a trace of zinc. Could it be that the zinc causes the fluorescence? Someday I hope that I shall find a piece of opal containing enough of these specks so that I may analyze them chemically for zinc. At present it is only a guess and doubtless a wild one.

• • • **ANOTHER COLORADO RIVER DAM PLANNED FOR POWER**

Money will be available July 1, Washington reports say, to start work on \$42,000,000 Bullhead dam on the Colorado river 67 miles below Boulder's great storehouse of power and water.

The Bullhead project must be built in double-quick time, Harold L. Ickes, secretary of the interior, told congress in a warning that otherwise southern California faces a serious power shortage and the national defense program will be slowed.

Ten years ago it was estimated the output of electricity at Boulder dam's present rate would cover normal load demands of California's southland until 1980. But growing population needs and the national emergency have changed the picture. About 150 miles downstream from Boulder, the power plant at Parker dam is nearing completion, will add 120,000 kilowatts to the Boulder production, but even with this there is not enough to meet requirements.

Power shortages in California, Nevada and Arizona, now placed by the federal power commission at more than 100,000 kilowatts, will rise to more than half a million kilowatts in the next six years, it is predicted.

Bullhead power plant will have a capacity of 225,000 kilowatts. This is about one-third the size of Boulder's installed capacity. Three more huge generators are being added to the Boulder powerhouse, work crews rushing installation. Pouring out a million kilowatts when this addition is completed, Boulder will then "just barely meet the demands on its output."

HERE AND THERE

... on the Desert

ARIZONA

Yuma . . .

Prospector John Flees for almost a generation roamed the hills south of Salome in the Little Harquahtas until he was as much a part of the district as old Lone mountain where his isolated cabin stood. In March John's body was found in the ashes of his lonely home. Some suspected the old prospector—he was 82—had been murdered, his cabin burned to destroy evidence of the killing. But there was no proof of foul play. After the funeral service, J. E. Matteson, postmaster at Salome, drove to Yuma to consult an attorney about the death. It was found that old John was neither "relief client" nor pensioner. As to his estate, nothing was known. Matteson was appointed administrator, three other good men named as appraisers and these four started an inquiry into John's life. In a Phoenix bank the searchers found a safety deposit box in John's name. The box gave up \$21,000 in United States government bonds. At Prescott, they found another safety deposit box, containing \$2,000 in government bonds, \$1,000 in cash—and a will in Flees' handwriting, dated December 14, 1936. The will listed five small bequests, four of \$200 each, one of \$500, and then old John had written that the remainder of his estate should go, one-half to Yuma county hospital, one-half to Yavapai county hospital.

Phoenix . . .

All Arizona gave thanks for record rains last winter and spring. Now some Arizonans find the rainfall is not an unmixed blessing. Says the Arizona Farmer: Consider the sheepmen. Their sheep are fat, but fleeces are light. Rains washed out the grease and dirt. Buyers pay no more for naturally scoured wool than for wool full of tallow, ticks, petrified wood and sandstone. Desperate cowboys are forced to descend to the social level of dairy workers. Range cows, well-fed, produce more milk than their calves can take. Waddies are sent to ride hill and mesa, looking for cows with over-distended udders, punchers ordered to "milk 'em out." This, according to the Farmer, is too much for self-respecting buckaroos to endure—that an Arizona cowboy should milk a cow.

Flagstaff . . .

When trout in Lake Mary became so thin they were not good eating, Flagstaff sportsmen scattered a ton of wheat in the water. Before thus feeding the fish, six trout were taken and weighed. At the end of a month, six sample fish will be caught and weighed, to test the experiment. There is little natural food in the water for the fish. Game association officials estimated the ton of wheat should feed 500,000 fish for a month.

Tucson . . .

Vegetable "whale oil" is a product of the desert. Chemists report the seed of the goat-nut, found in Arizona, the lower part of California and Sonora, yields an oil similar to that obtained from the sea mammal. Indian tribes for centuries have relished the nut, known also as the wild hazel-nut, the sheep-nut and by the Mexicans as jojoba (ho-ho-ba). The shrub is a distant relative of boxwood.

Tucson . . .

Ventana cave, 110 miles west of Tucson, was continuously occupied by humans from 5000 B. C. to 400 A. D., and has been used in later years from time to time by various Indian tribes. Evidence uncovered by Dr. Emil Haury, head of Arizona university anthropology department indicates the cave is one of the oldest inhabited places on the continent, Dr. Haury reports. Discoveries there give the chronological history of human life in the Southwest for the past 7,000 years. Stone-age implements more than 7,000 years old were unearthed, nine well-preserved mummies of the Hohokam people of the period 1000-1400 A. D. were found. The cave is 150 feet long, 50 feet high in front, sloping to a 5-foot ceiling in the back. A flowing spring is in one corner. Papago Indians today use the place for religious ceremonials and to store harvested saguaro fruit. Cotton cloth, fish nets, fur blankets, belts and sandals were among articles found with the mummies.

Tuba City . . .

Mormons and Indians joined in dedication here in May of a monument honoring the memory of Chief Tuve of the Hopi tribe. George A. Smith, Salt Lake City, member of the council of Twelve Apostles and president of the Utah Pioneer Trails and Landmark association, offered the dedicatory prayer. The monument of red native sandstone studded with turquoise, is a token of Mormon appreciation for the chief who during the mid-eighteenth century protected the pioneers in northern Arizona from the hostile Apache and Navajo. Tuve and his wife were converted to the Mormon faith, visited Brigham Young in Salt Lake City and worked in the Mormon temple at St. George, Utah.

Yuma . . .

Dr. Lawrence M. Huey, curator of birds and mammals and Dr. Charles F. Harbison, curator of insects, are camping in the Kofa mountain area north of here, seeking rare mammals, reptiles, insects and plants for the San Diego museum of natural history. In the heart of the huge federal refuge for big-horn sheep, the two scientists hope to find specimens not now represented in the museum. The Kofa mountains are arid, without any springs of known location, its only water in natural "tanks" in an almost inaccessible rugged region.

Tucson . . .

Germ destroyers of the giant cactus in southern Arizona have been discovered, along with at least one insect carrier of the scourge killing the great saguaro. Dr. J. G. Brown, plant pathologist of Arizona university, makes the announcement. The germ has been found on the surface and inside of maggots hatched from eggs of a desert fly which lays them on the surface of the saguaro. The maggots enter the cactus through an injured spot and feed on the tissues, the bacteria they carry multiply rapidly and the cactus rots, in time the decayed area "bleeds" and the weakened cactus eventually falls. The trouble has caused great damage in Organ Pipe national monument and in scattered areas between Yuma, Globe, and the Mexican border.

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Holbrook . . .

When members of the house appropriations committee at Washington urged the Indian bureau to prevent sale of imitation Indian products labeled as genuine, John Collier, Indian affairs commissioner, said it couldn't be done. Collier said the government stamped Indian-made silver of high grade as a guarantee of its quality but only about 25 per cent of "genuine" Indian-style silver jewelry and trinkets is actually produced on the reservations or wholly Indian-made.

Ajo . . .

Henry Ashurst, 28 years senator from Arizona, defeated last fall, has been appointed to the board of immigration appeals in the department of justice. His new job pays \$5600.

Window Rock . . .

When six Navajo Indians went to Washington to tell the President not to cut down their sheep herds, the delegation refused to be sidetracked at the department of the interior. John Collier, Indian affairs commissioner, offered to produce Secretary Ickes, vice-president Wallace, Mrs. Roosevelt. But the Navajos shook their heads. "Two things we want," said their leader Johnny Chief. "To see the White Father and tell him not to cut down our sheep herds any more or we die, and to give him this blanket." When the interior officials replied that the President "is very tired and worried," Johnny Chief answered, "I too am tired and worried." Johnny led his little band then to the White House, there found the President had gone for an automobile ride. "We come tomorrow," the Navajo announced.

CALIFORNIA

Brawley . . .

With his airplane seed sower Mal Carberry, Brawley pilot, planted rice on 1000 acres of land near Imperial. Commercial rice planting in Imperial valley follows several years of experiment. It is announced 4500 acres will be planted this year, on ranches near Imperial, Seeley, Mesquite Lake and Brawley. A rice mill at Imperial will cost about \$60,000.

Indio . . .

Bids have been placed for a government sea-plane base on Salton sea in the Southern California desert, according to information here. Location is on the north shore of the 40-mile long body of water at the head of Imperial Valley. Imperial Irrigation district gave a lease to the United States coast guard several months ago, covering the right to use the sea for service planes.

Holtville . . .

Weighing 25 $\frac{3}{4}$ pounds, the biggest sugar beet ever dug in this part of California, was turned up at the J. R. Snyder farm near Holtville. Granted the average beet content of 15% sugar, the specimen would yield about four pounds of sugar.

Calipatria . . .

One hundred and fifty full-grown pheasants were received at the state game refuge south of here in May to be released in various parts of Imperial valley by deputy game warden Lee Rossier.

Tehachapi . . .

Shoshone Indians from the Warm springs district in the southern end of Death Valley are appealing to the white man's court to oust three women who have made mining locations on land the Indians say has been their home for more than three generations. Robert Thompson, 68 year old Shoshone, here on his way to federal court at Fresno, says he was born at Warm springs, his family for many generations has cultivated the two or three acres of arable land there, raising squash, melons and beans.

El Centro . . .

Imperial valley's 1941 flax crop is worth \$3,000,000, L. G. Goar, superintendent of the state experiment farm at Meloland, estimated during the harvest started in May.

NEVADA

Boulder City . . .

Heavy spring floods pouring down the Colorado river were expected to fill Lake Mead to capacity and the overflow was expected to put Boulder dam spillways into use during June. Water storage behind the dam reached a new peak late in May with the lake holding more than 26,000,000 acre feet. Estimated capacity is 32,359,274 acre feet.

Carson City . . .

Nevada's new driver's license law goes into effect July 1. All licenses heretofore issued by counties or municipalities are nullified and every driver of a truck, bus, private or commercial passenger car, must get a new license under regulations set up by the state department of highways.

Battle Mountain . . .

Seagulls saved the crops of Mormon farmers from cricket invaders years ago, but Nevada isn't putting its trust in birds this year. Three airplanes are being used to spread insecticides in the Elko region in a six weeks' war waged now on crickets.

Savings for Every Power User

EVERY resident of the Imperial Valley whether or not his home or shop is connected with the Imperial Irrigation district lines, is reaping a direct profit from the service of this cooperatively-owned electrical system.

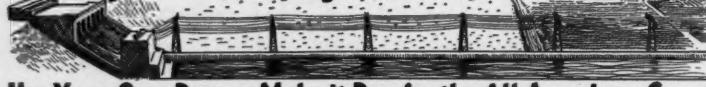
The reason for this is obvious, if you will compare the electrical rates charged in Imperial Valley before the installation of this publicly-owned power plant, with the rates in effect today.

Who Gets the Profit?

Remember this, that both the Imperial Irrigation district and the private company operating in this area, are in business for profit. But in the one case the excess earnings revert to the benefit of private stockholders, while the profits from Imperial Irrigation district power distribution become an asset of the entire Imperial Valley.

The more meters there are on the District lines the greater will be the benefits accruing to owners and taxpayers in this area.

Imperial Irrigation District



Use Your Own Power-Make it Pay for the All American Canal

Reno . . .

If you think of Nevada as an arid state, a desert region, consider this: It ranks 16th among states of the union in square miles of inland water area. Bureau of the census reports Nevada's inland water area is 838 square miles, with 33 other states, including the District of Columbia, "drier" in this classification. The survey covers inland water bodies of 40 acres or more.

Winnemucca . . .

Cattle baron John G. Taylor survived through times good and bad until he succumbed to a heart attack May 26 at the age of 87. He died at his ranch home 50 miles east of here, the center of Taylor's one-time empire of three quarters of a million acres owned and leased, on which ranged 75,000 sheep and 10,000 head of cattle.

McDermitt . . .

Before 50 registered Hereford bulls on the Lucky Seven ranch were turned out to summer rangelands the animals were shod. Bulls have a split hoof. Two half-moon shoes were placed on each hoof. The shoes kept the bulls from getting footsore in the rough and rocky country of the Owyhee desert's antelope district. When they are brought back to pasture in the fall, the iron shoes will be taken off.

Fallon . . .

Between October 31, when Nevada was admitted to the union, and March 1, 1867, date Nebraska became a state, United States flags carried 36 stars. Harold Bellinger owns the only 36-star flag in Nevada, made in that period, so far as is known here. The flag is 15 feet wide and 25 feet long. It usually is displayed at Admission day celebrations in Carson City.

• • • UTAH

Moab . . .

Fed by melting snows swelling countless streams in western Colorado and eastern Utah, the Colorado river is higher in this vicinity than in 15 years. Entire lower part of Moab valley was under water late in May, covered by a lake three miles long and two miles wide. The river road between Moab and Castle valley was inundated.

Zion Park . . .

Mounting tide of tourist travel is reflected in figures for April attendance at Zion Park, where 8,882 persons were checked during the month, a gain of 2,418 over April, 1940. Visitors came from every state in the union, Alaska, the District of Columbia, the Canal Zone, Hawaii and 14 foreign nations.

St. George . . .

Citizens here voted 952 to 287 in favor of building a municipal power plant when an election brought to a close a bitter campaign. Southern Utah power company's 25-year franchise will expire October 1, 1941. The city plan calls for a \$350,000 bond issue, to construct a power plant utilizing diesel and hydro-electric generating units.

Greenriver . . .

This community is making a bid as site for a new pig iron and small arms plant to be located somewhere in Utah by the federal government. It is hoped to win approval of a proposed location on the east side of the Green river in Grand county. Governor Maw and the state's congressional delegation have been asked to present Greenriver's claims.

Austin . . .

Leroy Casady of Austin has been appointed a member of the state fish and game commission, representing the third district, Lander, Eureka, Nye and Pershing counties. Other commissioners are Fay Baker of Reno, Andy Barr of Ely, William A. Powell of Fallon and E. J. Phillips of Minden.

Las Vegas . . .

Moapa valley, 60 miles north of here, shipped a daily average of 2,000,000 tomato plants this spring, until the total aggregated 32,000,000. By mail, express and truck, the plants went to growers for transplanting in regions where long winters prevent early plant starting.

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BROADWAY COURT — A luxurious tourist's home. Tile baths. Locked garages. Air-cooled. Steam heat. Clean, large rooms. Rates \$1.50 up.

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CARLSBAD CAVERNS NATIONAL PARK — is at White City, New Mexico. Accommodations for 600 guests. Cafe, Bar, Drug Store, Curios. Rates \$1.00 up.

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HACIENDA DE LOS CERROS — Every modern comfort in old Spanish estate two miles from center of Santa Fe. Excellent meals. Fine saddle horses. Lincoln motors. References exchanged.

THE SANTA FE INN — A hotel of distinction. 35 rooms, each with bath; \$8.00 upwards, American Plan. Cocktail lounge. Tennis courts. Riding stables. Season opens May 15th.

HOTEL DE VARGAS — Your Santa Fe home while you see the Indian country. A friendly welcome awaits the Santa Fe visitor who chooses this completely modern hotel. Right in the center of everything there is to see and do, you will enjoy your stay in Santa Fe when you stay at the De Vargas. Rates, \$1.50 up.

LA POSADA INN and APARTMENTS — in old Santa Fe. Located two blocks from the Plaza, center of all Santa Fe activity, La Posada offers the widest variety of entertainment, swimming, tennis, riding, sports. Home of the famous Cactus Tea Room. Just the place to rest or play. Every modern comfort and moderate rates.

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DEMING

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NEW MEXICO

Tularosa . . .

Old-timers of the southwestern ranges, who knew Eugene Manlove Rhodes when that widely known writer of rangeland tales was a young cowhand, paid their tribute to Rhodes' memory in two dedication ceremonies recently. At Rancho Perdido the reconstructed choza—rude hut—of Florencio Telles became a museum memorial to Rhodes. It was at the Telles choza on the "Lost Ranch" that a fleeing bank robber, in one of Rhodes' books, invited capture by pursuing possemen when the fugitive stopped to minister to a dying Spanish family. On May 19 a new dormitory, Rhodes Hall, was dedicated at New Mexico state college. Rhodes is buried high in the San Andreas mountain country, a bronze plate on a great boulder inscribed: "Gene Rhodes Paso por aqui."

Las Vegas . . .

From the employment office here 350 sheepherders have been placed this year in jobs, tending the woolies in Wyoming, Colorado, Kansas and New Mexico. Largest single group of 120 men went on chartered busses to Wyoming. Pay is highest in Wyoming, \$45 to \$60 a month plus board. Colorado ranchers pay \$30 to \$40 and New Mexicans \$25 to \$30 a month.

Belen . . .

In 1877 Frederick Scholle, German immigrant lad, drove a freighter's wagon from K. Carson, Kansas, to Albuquerque, to pay for his transportation across the plains. At Belen he and his uncle Franz Huning set up a general store, and in Belen storekeeper Scholle lived 64 years, prospered and acquired many cattle, real estate and other property. He died in May, 89 years old.

Taos . . .

Felipe Sisneros, 63 years old, rancher of Santa Rosa, found a mountain lion scattering his herd of sheep. The lion had a sheep down when Sisneros ran up, and turned on the man. Sisneros caught the lion's jaws in his strong grip, killed the beast with a pocket knife. In the struggle the rancher's hands were badly lacerated. He came to Taos for medical attention.

Gallup . . .

Doctors Alexander and Dorothea Leighton took a poll of the problems of a cross-section of Indians on the Navajo reservation. No. 1 worry of the redman is sickness and death, their report says. How to get a living and social security are Navajo worries Nos. 2 and 3. The doctors later told the American Psychiatric association these results of their reservation studies.

Santa Fe . . .

Western public land states will unite to oppose "excessive future purchases by the federal government." This statement comes from H. R. Rodges, state land commissioner, returning from an interstate conference in Salt Lake City. Moreover, the states affected will seek "adequate compensation" for loss of taxes chargeable to government land purchases, Rodges says.

Gallup . . .

Says the Gallup Independent: A Gallup bank has an Indian client who always signs his checks with two crosses. This customer surprised the teller the other day with a check marked with three crosses. "How's this?" the teller asked. "You've put three crosses on this check." "Well my wife is getting ambitious. She say I must have a middle name," the Indian answered.

Mines and Mining . . .

Ship shortage slows United States effort to accumulate stock piles of strategic materials. After one year of the defense program, supplies of some critical items are thus listed: chromite, ore used in making chromium for steel, enough to last a year at present rate; copper, large order placed with Chile, delivery of first 100,000 tons being completed; graphite, sufficient for nearly a year; manganese, sufficient for 16 months; mercury, domestic output at record heights, supply enough for more than six months; mica sufficient for more than a year; nickel, supply low; tin, enough for more than a year; tungsten, supply low; zinc supply low. Domestic production in tungsten and zinc is expanding.

Winnemucca, Nevada . . .

Humboldt county's Getchell mine, Nevada's largest gold producer, is installing a second large kiln for roasting ores. Announcement says the big unit, constructed at Allentown, Pa., is seven and one-half feet in diameter and 260 feet long. Mill production will be boosted beyond 1200 tons per day.

Salt Lake City, Utah . . .

"The Mining Industry of Utah" is the title of a 64-page booklet issued by the Salt Lake City chamber of commerce. Mining, milling, refining processes are described; operations of mining companies in the state are reviewed; non-metallic resources are listed as opportunities for development. Geology of the state is described and there is an article on mining in general.

Hawthorne, Nevada . . .

High-grade ore in the Lucky Boy mine near here has been reached with a raise from the main opening tunnel, according to Urpo Kyoto of Duluth, Minn., president of the controlling company. The ore was first found in a cross-cut from the 950-foot level of the Hubbard shaft, running several hundred dollars a ton. At 130 feet after starting a raise from the tunnel level, the ledge was tapped again, first shipment netting \$152 a ton.

Fallon, Nevada . . .

Hundreds of claims have been staked during recent months in a 20-mile belt in this district by night prospectors who hunt for scheelite with fluorescent lamps. Tungsten, a strategic war mineral, is obtained from this ore. The nation's largest tungsten producer, Nevada-Massachusetts company, at Mill City, is near the north end of the mineralized region, which includes Pershing, Churchill and northern Mineral counties.

Washington, D. C. . .

President Roosevelt has signed legislation aimed at cutting down mine fatalities. There were 1400 deaths in mines in 1940. The new law requires one annual inspection by the federal bureau of mines and permits additional inspections in the bureau's discretion.

Beatty, Nevada . . .

Machinery will be turned over in August for the first time at the plant of the Carrara Portland cement company, 10 miles south of here. The company will make white cement from large deposits of marble. Daily production of 80 tons is expected.

Grants, New Mexico . . .

Barnsdall-Tripoli pumice operations here have been taken over by Whittaker, Clark and Daniels, New York mineral and chemical firm, and extensive development is planned, according to announcement here. Joe Ebert of Grants has been appointed manager of mine and mill.

Valmy, Nevada . . .

Manganese deposits from Western Alloys, Inc. property here are being tested by the federal bureau of mines. The company is shipping from its recently completed 50-ton concentrator to the government stock pile at Ogden, Utah. Contract calls for delivery of 2500 tons of not less than 48 per cent manganese content.

Phoenix, Arizona . . .

Arizona's department of mineral resources has undertaken a detailed survey of producing and non-producing copper mines in the state to determine possibilities of increased production if copper prices were to advance. Charles F. Willis, chairman of the Arizona department, says the survey is important not alone from the standpoint of what it may mean in increased Arizona copper production but also from the point of view of national defense. On May 31, the office of production management at Washington placed copper under a system of mandatory industry-wide control. The action was made necessary by "shortage of copper which is expected to become worse during 1941," said defense director E. R. Stettinius.

Phoenix, Arizona . . .

Skyrocketing demands for aluminum which threaten a shortage of the metal for airplane production have launched the government on a long range program for production from submarginal reserves in the west, writes Jackson Hoagland of the Mining Journal. It is proposed to build an aluminum plant at Boulder dam to make aluminum by electrolytic methods. Aluminum reserves in the west consist of leucite and alumite deposits in Utah, Colorado, Wyoming, Nevada and Arizona, with alumina content running around 35 per cent. Deposits near Boulder dam have been investigated. In Arizona there is an alumite deposit about five miles west of Quartzsite at Sugarloaf butte and there are also deposits near Patagonia.

San Francisco, California . . .

James W. Wade and P. R. Bradley will serve as general chairman of the program committee and general chairman of the arrangements committee for the eighth annual metal mining convention and exposition to be held in San Francisco September 29 to October 2. Wade is general manager of the Tintic Standard mining company. Bradley is president of Alaska Juneau.

Austin, Nevada . . .

Property of the Austin silver mining company, once America's foremost silver producer, will go on the auction block at a public sale June 21. Ground and equipment were bid in by Lander county at a delinquent tax sale several years ago. The property includes many claims, buildings, machinery and equipment.



Here are 3 things all Visitors to Arizona Should See . . .

PAINTED DESERT . . .

This strange region is covered with hills, knolls, rocks, and sand formations of many brilliant colors of red, blue, pink, vermilion, buff and almost every conceivable color. The sand from the Painted Desert is used by the Indians in some of their ceremonial sand paintings. This trip is but a short ride from Holbrook.

SNAKE DANCES . . .

This year, an odd numbered year, the Walpi and Mishongnovi will hold their snake dances. Performed in the five Hopi pueblos, they are never held in more than one village at a time. A note to the Chamber of Commerce will bring you the dates of the dances.

PETRIFIED FOREST NATIONAL MONUMENT

Only twenty miles from Holbrook is this great national monument where millions of years ago huge trees grew in a low, marshy, swampy valley. Today we evidence the immutable work of Time, a dry, sandy region with petrified logs, multi-colored and multi-shaped, lying silent and ageless in the sun and under the mysterious stars of the Arizona night.

- Every comfort and convenience will be yours if you make your home in

H O L B R O O K



EL MORRO

Winner of the May Landmark contest announced by Desert Magazine was Cristel Hastings of Mill Valley, California. This contestant identified the accompanying picture as El Morro, or Inscription rock in western New Mexico. There were scores of entries in the May contest, all of them of such merit that the judges found it very difficult to select the winner. The prize-winning 500-word manuscript is presented on this page.



By CRISTEL HASTINGS

THE great Rock of El Morro, known also as Inscription Rock, pictured in Desert Magazine's landmark contest in May, looms skyward in Valencia county, west central New Mexico. It is west of Albuquerque, south of Gallup about 65 miles, and easily reached via U. S. Highway 66 to Gallup, thence south over State Highway 32. It may also be reached over State Highway 53 from Grants.

A turreted castle of solid rock and

multi-colored sandstone 300 feet high, El Morro stands in the middle of a valley of lava. Its smooth sides bear numberless inscriptions and autographs, ancient and strange, many of them beyond deciphering. Autographs of five early Spanish governors of New Mexico are among them. Padres wrote their names on El Morro's broad flank, as did the first white soldiers who came that way.

The south side of El Morro contains a great cove which, in early days, seems to have served as a fortress for padres and soldiers in warding off attacks by hostile Indians. There is a pool of good water in the cove.

Returning from a hazardous journey to the head of the Gulf of California in 1605-1606, Don Juan de Oñate, founder of the city of Santa Fe, inscribed a crude record of his travels on the sandstone walls of El Morro. His is the first known Spanish inscription on the huge monolith. Early Spanish missionaries and governors followed suit and over half a hundred Spanish legends are carved and scratched on the wide face of El Morro, the last one dated 1774.

After Oñate's inscription came that of Governor Manuel de Silva Nieto, who led the first missionaries to Hawiku. He came to El Morro with ten wagons and 400 cavalry.

After him, in March, 1632, came the

DESERT QUIZ ANSWERS

Questions on page 22.

- 1—Newton Drury
- 2—Hohokam.
- 3—Rio del Norte.
- 4—Flower.
- 5—San Francisco peaks.
- 6—Lost mines of the Southwest.
- 7—Coolidge.
- 8—California.
- 9—New Mexico.
- 10—Mormon battalion.
- 11—Apaches.
- 12—Copper.
- 13—Grand Canyon.
- 14—Yellow.
- 15—Hopi.
- 16—Southern Arizona.
- 17—Silky tree fibre used in filling sleeping bags.
- 18—Yucca.
- 19—Phoenix.
- 20—Algodones dunes.

brave Lujan, who went with soldiers from Santa Fe to Hawiku where, on February 22nd, 1632, Father Letrado had been scalped by Zuni Indians.

In 1680 El Morro witnessed a bloody war between the Spaniards and Pueblo Indians. Subduing the Pueblos, General Don Diego de Vargas brought colonists and proceeded to settle here.

The first Americans came to El Morro in 1849. R. H. Kern, an artist, and Lieutenant J. H. Simpson, recognizing the historical importance of the countless inscriptions, added their own before departing with a more or less complete record of translations they had made.

Hundreds of crude Indian glyphs and half-obliterated pictographs ornament the face of El Morro. These pre-date those of the Spaniards, as Oñate's legend was carved over an Indian pictograph!

Both sides of El Morro carry Indian glyphs, the best of these being on the south side. Many of them so high they must be reached by ladders remain untranslated even today. Their lofty position indicates that Indians must have lived on the high, almost inaccessible mesa. Remnants of ancient trails lead up to crumbling ruins of crude terraced pueblos and broken village walls four to six feet high.

El Morro national monument was created December 8, 1906. It contained 160 acres. In June, 1917, 80 acres of historically important ruins were added, making a total of 240 acres, all rich in archaeological lure and in primitive but authentic pre-American history!

Robert R. Budlong is custodian here for the U. S. park service, and camping facilities are available for motorists.

The Grandest Trip in the West is a Voyage through Glen Canyon on the COLORADO RIVER

200 miles of the finest scenery outdoors. See Rainbow Arch, Gregory Bridge, Crossing of the Fathers, Hole-in-the-Rock and other historic spots. Explore for cliff dwellings, petroglyphs and early Spanish inscriptions. No bad rapids. Personally conducted, everything furnished. Two weeks on the river, starting about Sept. 15. For details write . . .

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TOMBSTONE — ARIZONA

Landmark in Southern California

Who Can Identify This Picture?



Prize Contest Announcement

Located on the rim of the Southern California desert, the old building shown in the picture above played an important role in the history of early desert travel across the Cahuilla basin.

Gold-seekers, soldiers, stage-drivers, freighters all stopped here for water and rest after the hard trek across the floor of the basin:

Many motor travelers today have seen this historic building—many go there to-

day for rest and recreation in a comfortable resort nearby.

In order that Desert Magazine readers may become better acquainted with this place and its historical background a prize of \$5.00 will be paid for the best descriptive story of not over 500 words. Manuscripts should give the name, the exact location by highway, the present owners, and as much of the history as may be condensed in the word-limit.

Entries in this contest must reach the Desert Magazine office not later than July 20, 1941, and the winning story will be published in the September number of this magazine. There is no restriction as to who may enter this contest.

Prizes to Amateur Photographers

Each month the Desert Magazine offers two cash prizes for the best camera pictures submitted by amateur photographers. The first award is \$5.00 and the second \$3.00.

Pictures are limited to desert subjects, but there is no restriction as to the residence of the photographer. Entries may include Indian pictures, rock formations, flowers and wild animals, canyons, trees, waterholes—in fact everything that belongs to the desert country.

Following are the rules governing the photographic contest:

1—Pictures submitted in the July contest must be received at the Desert Magazine office by July 20.

2—Not more than four prints may be submitted by one person in one month.

3—Winners will be required to furnish either good glossy enlargements or the original negatives if requested.

4—Prints must be in black and white, $3\frac{1}{4} \times 5\frac{1}{2}$ or larger, and must be on glossy paper.

Pictures will be returned only when stamped envelopes or photo-mailers are enclosed.

For non-prize-winning pictures accepted for publication \$1.00 will be paid for each print.

Winners of the July contest will be announced and the pictures published in the September number of the magazine. Address all entries to:

Contest Editor, Desert Magazine, El Centro, California.

THE SPIRIT OF

76

by JOHN CLINTON



Did you ever slam shut the doors on your automobile with the keys inside the car? Me, too! Mrs. Clinton and I

came out of the movies to get in the Hispano-Plymouth, last night and—oof! There we were on the outside, and there were the keys inside!

Mrs. C said: "All right, John, let's see your precious Union Minute Men get us out of this one!" Well I walked down to the Union Oil station and told the boys about it. One of 'em got a long wire and came back to the car with me. He twisted the wire under the windwing, and hooked the door handle—and presto!



Then, on top of that, he presented both Mrs. Clinton and me with a perfectly swell leather key-tainer that his boss had given him. Then he suggested we each carry keys to the car, and prevent future accidents!

Well, that made such a hit with me that I got Union to let me give one of these swanky leather key-tainers to every reader of this column—free! No box-tops, no contests, no dimes, no sales slips—nuttin'!

Just address a post card to John Clinton, Room 729 Union Oil Bldg., Los Angeles, and I'll send you a leather key-tainer with love and kisses, and the compliments of the Union Minute Men.



But I'd like to suggest that you write the card now, on accounta last time I offered my readers a gift, we got so many requests we had to make the late folks wait. And in the meantime, when you need a friend—stop at a Union Oil Station!

UNION OIL COMPANY

The Desert TRADING POST

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—actually about 1½ cents per thousand readers.

MISCELLANEOUS

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STEER HORNS for sale, over 6 feet spread, polished and mounted. Fine decoration, rare opportunity, Texas Longhorn cattle are now extinct. Lee Bertillion, Mineola, Texas.

KODACHROME 2X2 SLIDES, "Springtime in the Desert." 40 slides with descriptive manual \$20. C.O.D. on approval. Write for folder. C. Edward Graves, Arcata, California.

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KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

MAPS

BLACKBURN MAPS of Southern California desert region. San Bernardino county 28x42 inches \$1.00; San Diego county 24x28 inches 50c; Riverside county 50c; Imperial county 19x24 inches 50c; Yuma and Gila river valley 17x27 inches 50c. Postpaid. Add 3% sales tax in Calif. DESERT CRAFTS SHOP, 636 State St., El Centro, California.

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SELL OR TRADE: 232 acres patented land, southwestern Colorado 35 miles Cortez, plenty wood, spring water, half tillable, balance range, taxes paid, sacrifice. \$5.00 acre. Yachats Agate Shop, Yachats, Oregon.

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New Curator in Nevada . . .

S. M. Wheeler has been appointed curator of the Nevada state museum, says an announcement by Judge Clark J. Guild, chairman of the museum and art institute. Wheeler has been employed by the state park commission as archaeologist, was trained under F. M. Harrington of the southwest museum of Los Angeles, and was in charge of excavation work at Hidden caves near Fallon.

Making War on Gophers . . .

In the annual gopher control campaign sponsored by the Yuma county water users association 22,388 of the rodents were killed. Bounty of two cents was paid for each gopher trapped, cash prizes were given to pupils in each of the five valley school districts. All residents take part in the year-around drive to cut down damage to crops and to reduce the number of irrigation canal breaks caused by the gopher tunnels.

Heavy Travel in Death Valley . . .

Visitors to Death Valley in April this year doubled the record for the month in 1940. Superintendent T. R. Goodwin says fair weather, late Easter and a lovely display of flowers are responsible. He reports 20,756 visitors for the month. Summer travel will exceed that of last year, Goodwin predicts. During June, July and August, 1940, the Death Valley national monument checked more than 50,000 visitors. Total travel record this year will pass the 90,000 mark, the superintendent believes.

White Man's Law Wins . . .

Ninety-year-old Pia Machita, Papago Indian chief, has never recognized the Gadsden purchase of 1853 which brought the southern Arizona home of his tribe into the United States. Last fall he ordered his young men to refuse to register for military service with Uncle Sam. When federal marshal Henry Smith went to the reservation in October to arrest Pia Machita, Smith and his accompanying Indian police were set upon by 40 Papagos and several of Smith's ribs were broken. In May Ben McKinney, U. S. marshal, arrested Pia and 11 of his followers at Toapit and Wall's well, deep in the Papago reservation. From the county jail at Tucson, following parleys, the aged Indian leader sent word to 14 braves to join him at Tucson and surrender to the white man's law.

Cabin Sites to Lease . . .

Secretary of the Interior Harold L. Ickes has announced a new governmental policy for leasing summer home sites at irrigation reservoirs in the west under control of the bureau of reclamation.

Desirable cabin sites exist on the borders of many reservoirs, on land withdrawn or purchased by the United States and placed under control of the department of the interior for protection or for future enlargement of the storage basin. Under the new regulation these are now available for lease by individual lessees.

When a person has selected a lot he will be issued a term lease for the area which will grant him exclusive use subject to stated restrictions. The annual fee will vary from \$10 to \$25 a year depending on its location and the facilities made available.

The lease may be for a maximum of 10 years subject to cancellation by the government after giving the lessee due notice of the necessity to terminate. At the end of the 10-year period the lease may be renewed at the discretion of the secretary of the interior or his authorized representative.

Winning Navajo Converts . . .

In rites conducted here and at St. Michaels, 320 Navajo Indians were confirmed in the Catholic faith by the Most Reverend Bernard P. Espelage, O. F. M., Bishop of Gallup.

Floods Are Predicted . . .

Record depths of snow piled on the Sangre de Cristo range in the San Luis valley of southern Colorado headwaters of the Rio Grande. Surveys reporting storage equivalent of 54 inches of water disclosed origin of heaviest run-off in years, with flood threats along the river below here.

New Grass for Range . . .

African love grass may be the answer to the prayers of Arizona for more and better pasture land. C. B. Brown, Pima county agricultural agent, says the new type forage plant has been tried on nine southern Arizona ranches, grows rapidly in early season, spreads to adjoining areas and makes good fodder for cattle.

Tourists Like Arizona . . .

Records indicate 2,171,829 tourists visited Arizona during the past year and spent \$74,319,105, according to an estimate by the Conoco travel bureau. Agents of the bureau directed more than a quarter million visitors through the Grand Canyon region; 178,675 persons through southwestern Arizona; 245,578 individuals into the northeastern section and 162,138 to the southeastern part of the state.

Weather

FROM PHOENIX BUREAU

	Degrees
Mean for month	76.4
Normal for May	75.0
High on May 8	102.0
Low on May 2	52.0
Rain—	Inches
Total for May	.76
Normal for May	.12
Weather—	
Days clear	12
Days partly cloudy	15
Days cloudy	4

G. K. GREENING, Meteorologist

FROM YUMA BUREAU

	Degrees
Mean for month	80.2
Normal for May	76.2
High on May 7	107.0
Low on May 1	57.0
Rain—	Inches
Total for month	0.00
72-year average for May	.04
Weather—	
Days clear	27
Days partly cloudy	4
Days cloudy	0

Sunshine 96 per cent (415 hours out of possible 430). Colorado river—Release from Boulder dam 1,422,000 acre feet. Estimated storage May 31 behind Boulder dam 27,950,000 acre feet, a gain of 3,230,000 acre feet since April 30. Release of extra water from Boulder dam to make room for heavy spring run-off began May 8, will probably continue through June.

JAMES H. GORDON, Meteorologist

THE DESERT MAGAZINE

Gems and Minerals

This department of the Desert Magazine is reserved as a clearing house for gem and mineral collectors and their societies. Members of the "rock-hound" fraternity are invited to send in news of their field trips, exhibits, rare finds, or other information which will be of interest to collectors.

ARTHUR L. EATON, Editor

Pasadena to be Convention City in 1942

MINERALOGISTS, geologists, gemologists and plain "rock hounds" from all parts of the West were in attendance at the annual convention of the California Federation of Mineralogical societies held in Oakland, California, May 10-11, under the sponsorship of the East Bay Mineralogical society of Oakland. Convention headquarters were in the Claremont hotel, "a gem of a setting," according to Dr. Warren F. Fox, delegate from the Imperial Valley Gem and Mineral society and a director of the state federation.

Amateurs vied with dealers in their display of beautiful minerals and semi-precious stones. Colorful cabochons of all sizes and materials blended with cut and polished slabs of agate, jasper, petrified wood and other highly mineralized stones to make a rainbow-like display of beauty. Large and small masses of crystals sparkled and the beauties of geodes were disclosed.

The attendance was reported as 4,500. On Sunday showers cut down the attendance materially. Amateurs in the "swap-room" did a rushing business—demonstrating that "hoss-trading" is one of the fine arts of the rock collector. Lapidary equipment and supplies were shown by various dealers from California and other states. Interested visitors had specimens cut as the efficiency of diamond saws was demonstrated.

At the meeting of delegates, Pasadena, California, was selected as the site of the 1942 convention, defeating Fresno and Los Angeles, the only other bidders. The directors of the federation took favorable action regarding the affiliation of the two mineralogical societies in Reno and Carson City, Nevada. The directors by resolution approved a plan whereby local societies will invite service men at the various army camps to attend the meetings and participate in the activities of societies located near the camps.

Other matters included uniform rules for exhibits, conventions and county fairs, federation jewelry, the encouraging of local exhibits, the fostering of mineralogy in the schools, a possible increase in federation dues, and the federation news bulletin.

Following is the list of prize winners announced by the federation directors:

Grand prize—to the society with the best mineral display, limited to 3x6 feet. Won by Los Angeles Mineralogical society.

Best amateur collection—Marjorie Welch, Alameda, 1st; Harold Soper, San Francisco, 2nd; L. S. Chapman, Hayward, 3rd.

Large polished work, slabs, book ends, paper weights, etc.—Carl Bangle, Bakersfield, 1st; Isabel Westcott, Hanford, 2nd; W. C. La Ruse, Oakland, 3rd.

Cabochons—Walter Mehnert, Albany, 1st; Wm. J. Kane, San Francisco, 2nd; E. S. Somerville, San Francisco, 3rd.

Polished petrified wood—W. J. Hurrel, Lodi, 1st; D. H. Clark, Redlands, 2nd; Gates Burrell, Selma, 3rd.

Jewelry craft—Virginia Breed, Kingsburg, 1st; Princess Thompson, Dunlap, 2nd; Mrs. Claribell Bell, Berkeley, 3rd.

Polished work, ages 14 to 18—Leonard Cherr, Casper, Wyoming, 1st; Scott Cuthill, Casper, Wyoming, 2nd.

Polished work, under 14—Ed Wiemken, Oakland, and Joy Bell, Berkeley, first; Henry Batteate, 2nd.

HONOR RIBBON AWARDS

Honor ribbon awards by the executive committee were as follows:

Dr. M. J. Groesbeck, Porterville, for her lovely collection of precious stones.

Max Vonsen, Petaluma, for his fine exhibit of crystal group and minerals.

Sylvia May Hirsch, Los Angeles, for her superb collection of petrified wood.

George Gary, division of mines, for his display of crystal specimens, representing the normal forms of the six crystal systems, and for a large 700 pound crystal specimen group.

Francis Sperisen, San Francisco, for his exhibit of faceted stones.

J. Lewis Renton, Portland, for his beautiful exhibit of moss agate and picture cabochons.

Sixteen banquet door prizes were awarded, approximately \$135 of which were donated by dealers.

JUNIOR WINNERS

Faceted work—B. N. Porter, Oakland, 1st; Thos. J. Oliver, San Francisco, 2nd.
Fluorescent exhibit—Dr. Courtland L. Booth, Portland, 1st; B. E. Sledge, Oakland, 2nd.

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Seattle, Washington

RAMBLING ROCKNUTS

Bertha Greeley Brown and her husband of Seattle, Washington, spent several weeks traveling in the Southwest, collecting rocks and swapping with the traders they met along the way. Mrs. Brown kept a notebook of the places visited and the "rocknuts" they met along the way—and this is the seventh in her series of travelog stories.

WE entered a heavy stream of traffic and jostled westward across the breast of Phoenix, a city rising from the hunting grounds of ancient Indian tribesmen, and now, with a modern air, preening her plumage and strutting in the Valley of the Sun.

Our destination was an attractive cabin court owned and managed by Lottie Teasdale, and here we met our old friends May and Will Kartsmark, once Washingtonians but now desert addicts and Arizona citizens.

As we unloaded the car Will Kartsmark brought word that F. P. Wiggin wanted to see E. K. at his trading post.

For two weeks my husband swung like a pendulum between our cabin and Wiggin's Trading Post. His head was in the air and he was mentally suspended by a string of events—all concerning rocks. Each day he rushed into the cabin, hunted through a pile of Texas material, picked out the best agates, red, mossy, blue-gold. Then, in a backroom at the Post he and Mr. Wiggin put these through a gang saw that cut eight slices at a time into cabochon thickness. I, too, went to the shop, crowded into the small room where, many times, the three of us waited in breathless anticipation for saws to make the final turn that revealed beauty hidden since the earth's surface was in the making.

• • •

F. P. Wiggin has been in the trading post business 45 years and most of this time has been spent on Indian reservations. For health reasons he now lives in a low altitude but his heart is still in the old haunts with his many Indian friends. He has a marvelously beautiful collection of turquoise, picture-wood and silver-work. One jewelry set (bracelet, ring and clip) made of silver and Arizona wood, in tones of ivory and sepia with desert scenes as true as any artist could paint, is priced at one thousand dollars. When Mr. Wiggin sees a likely buyer for what he calls "high priced stuff" coming through the door, he quietly steps behind the counter and puts this set out of sight.

"I like it too well to part with it," is his simple explanation. Until I saw this kindly,

likable man hiding away these little inanimate pets I had held the opinion that when commercialism came in at the door, true rock-love went flying out of the window.

John, the Navajo silversmith, red scarf about his head, sat in the store room at the Post and, with deft fingers, plied the ancient craft of his ancestors. His inscrutable silence did not hide his love for metal and stone which he so expertly devises into body ornaments with symbolisms of tradition and superstition.

"What is your real name, John?" I asked, rather hesitatingly, for I wondered if our acquaintance had reached the stage where I could be personal.

"Ta-pa-hah," he answered, never glancing from his work. With easy skill he fitted silver about stone, used a torch, set it down and then added, "It means By-the-water."

• • •

With the Kartsmarks, we visited the Arizona state fair and spent most of the time in the building that housed the mineral display. Much of the wealth of Arizona lies in its minerals and some of the mines have been worked since the early Spanish occupation of Mexico—over 400 years.

Arizona is first in the production of copper and several types of this ore are classed with semi-precious gems and used for jewelry settings. Three of these are: azurite, blue carbonate of copper; malachite, a deep mossy-green ore; chrysocolla, a silicate of copper in sky-blue and greenish-blue shades. Of all our copper specimens, from Russia, Africa, Alaska and many of the states, we hold most precious those from Arizona, valued more for sentimental reasons than for quality—reminders of experiences we hope never will slip beyond memory.

We met E. P. Patterson who had a mineral booth at the state fair. On the card he handed me was printed "Arizona Minerals and Gem Materials—Wholesale and Retail."

• • •

On the Cave Creek road toward Black canyon, north of Phoenix is a jasper field. In possession of a good map and full directions we started out, with the Kartsmarks, to find this. Soft radiant sunshine drenched the landscape with an invigorating tonic, we became overly ambitious and branched into side issues that practically dissipated our main objective.

E. K. prospected every gravel run we came upon, Will scoured through all the rubbish dumps for desert glass and May and I laced about looking out over the desert sweeps fringed by high mountain peaks which in turn were crowded by low, hazy, barricading calligas. Intoxicated by all the beauty we could touch, see and feel, we day-dreamed beyond reason, building castles in the air—which, had they materialized, would have been cute, little, adobe houses.

Success favored Will. He found a perfect glass humidor cover, dated 1900, and colored to deep amethystine shade by the sun rays of many a year.

"Here, you keep this," he said as he handed the lovely thing to me. I was delighted and upon reaching the cabin I wrapped it in soft tissue and placed it midway between belongings in my grip, evoking with hopeful thoughts, safe transportation.

AMONG THE ROCK HUNTERS

Oregon Agate and Mineral society will be host to convention of Northwest federation of mineralogical societies on Labor day, 1941, according to Ruth B. DuRose, secretary.

Los Angeles mineralogical society features an auction of donated specimens in June.

Los Angeles lapidary society and Los Angeles mineralogical society held a joint field trip to the Chuckawalla mountains May 30-June 1, for geodes and agate nodules.

Percy F. Jones spoke on gem stones at the May 15 meeting of Los Angeles mineralogical society.

Long Beach mineralogical society discussed summer field trip policy at the May 9 meeting. May 30-June 1 field trip covered the Coldale area. Campfire meetings make a hit with the Long Beach group.

Attorney J. R. Dorsey entertained Kern county mineral society May 12 with running comment on his technicolor pictures taken in the East Indies.

Professor Russell Dysart of Chaffee J. C. talked on a geologist's wanderings in the Canadian Rockies at the April meeting of Orange Belt society. C. D. Woodhouse was guest speaker at the annual dinner, May 2, of the Orange Belt group. His subject was "Prospecting for the strategic minerals."

Charles Countryman and Henri Withington furnished the April program for Searles Lake gem and mineral society.

Frank M. Darroy of Searles Lake district is exhibiting some excellent specimens of minabilite—glauber salt—collected in the dry lake at Salt Lake City.

Two instructive talks were given at May meetings of East Bay mineral society. Mr. Hanson spoke on the work of water-landslides in the Grand Tetons. Dr. Bruce Clark, professor of paleontology at U. C., gave an illustrated lecture on Mount Diablo.

Northern California mineral society plans to extend its circle of influence by soliciting membership by letter from outside the San Francisco area.

Genevieve Jezler and Lucille Fulcher were in charge of Golden Empire mineral society's exhibit at the Oakland convention. The same exhibit was displayed at Butte district fair May 22-25.

Dr. Goetz of Cal. Tech. addressed Pacific mineral society at the May meeting on silver, an industrial commodity.

Henry Mulryan of Gladding McBean and Co. spoke on asbestos at the May meeting of West Coast mineral society.

Mineralogical society of Southern California celebrated its tenth anniversary June 14 at Almadena golf club house. This group sponsors the mineral exhibit in Griffith park planetarium, Los Angeles, under supervision of Wendell O. Stewart.

J. Lewis Renton, Portland, Oregon, entertained Mineralogical society of Southern California with his kodachrome slides on minerals of the northwest which he had shown at the Oakland convention.

C. D. Heaton and Harry Stein represented Santa Monica genealogical society at the Oakland convention.

Sequoia mineral society has voted to give honorary membership to members in the army service and to set aside for them specimens secured on field trips. Dr. Dyck addressed the Sequoia group on Folsom man at the May meeting. Chris Andersen also gave a talk on West side sea cow fossils.

Kern county mineral society has decided to center discussion around some one mineral each meeting. Antimony will be considered in June.

Southwest mineralogists were represented by ten members at the Oakland convention. Mr. and Mrs. Harold Eales were official delegates.

California Journal of mines and geology, Volume 36, No. 4, is largely devoted to a study of mineral resources of the Kernville quadrangle. Minerals produced in this district are gold, silver, lead, copper, tungsten, antimony and zinc. This volume also contains an index of the mineral collection in the museum, state division of mines, Ferry building, San Francisco. Copies of the bulletin may be obtained for 60c (plus 2c sales tax in California) at offices of the division of mines, Ferry building, San Francisco, State building, Los Angeles, State office building, Sacramento.

Magnesite, a strategic mineral which is scarce in United States, may be made chemically from oyster shells and sea water.

One of the few deposits of tin in United States occurs in western Riverside county, California.

Arthur L. Eaton, club adviser, led in a discussion of moonstone pebbles found on the beaches, at the June 3 meeting of Imperial Valley Gem and Mineral society.

CONGRATULATIONS

To the Winners at the
Oakland Convention!

HISTORY REPEATS . . . Last year at Santa Barbara all the winners, for both large and small work, won with Heavy Duty "STREAMLINER" Diamond Saws. At the Oakland Convention this year, practically every winner used "STREAMLINER" saws. More awards were won by "STREAMLINER" users than all other saws combined.

Miss Marjorie Welch, 3268 Central Ave., Alameda, won 1st prize for the best amateur collection. Miss Welch used 20-in "Streamliners."

Mr. W. G. Hurle, 26 North Washington, Lodi, won first prize for large polished petrified woods. Mr. Hurle cut all his material with 16-in. "Streamliners."

Mr. W. C. LaRue, 5222 East 14th St., Oakland, won the special award for the best amateur collection of polished work (combined classes). Mr. La Rue uses 20-in. Heavy Duty "Streamliners."

Mr. Walter Mehnert, 1815 Marin Ave., Albany, Calif., won 1st prize for cabochon work. Mr. B. M. Porter, 5742 Nottingham Drive, Oakland, won 1st prize for facet work. Master Al McGuiness, 478 Fairbanks Ave., Oakland, won 1st prize for best junior minerals.

A student from the Elmhurst Junior High School, Elmhurst, under instruction of Mr. George Campbell, won 1st prize for polished work for sponsored juniors. This school used "Streamliners." They had to be good, and the winners knew it. The contestants had to be good to win, make no mistake about that. Now, on to Pasadena, where "Streamliners" again will play their part.

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**MINERALS COME FROM
MANY STRANGE SOURCES**

By JOHN M. GRIEGER

Although the great majority of mineral species are the result of the common igneous depositional, and metamorphic agencies, a goodly number of rather rare forms come to us in many peculiar and interesting ways. Such minerals as "cliftonite, cobenite, daubreeelite, kamacite, lawrencite, maskelynite, merrillite, oldhamite, plessite, schreibersite, and toenite have no known terrestrial occurrence, but come from other worlds through the agency of meteorites. A number are known from but one meteorite; for example, asmanite in the meteoric iron of Breitenbach, chladnite from the Bishopville meteorite, moissanite in the meteoric iron of Canyon Diablo, peckhamite from the Estherville meteorite, victorite in the Deesa meteoritic iron, and weinbergerite in a meteorite from Madras, India. There are other minerals having both a terrestrial and meteoric occurrence, such as metallic chromium, cobalt, and copper, cristobalite, diamond, graphite, iron, manganese, millerite, nickel, tin, and troilite.

Abandoned mine shafts and tunnels have been the birthplace of an interesting group of minerals. Some of these are bianchite, cuprogoslarite, dietrichite, epsomite, ferrogoslarite, and goslarite. At Vulcan, Colorado, zinc-copper-melanterite has been found to occur only in the mine dumps. During the burning of a portion of the United Verde copper mine at Jerome, Arizona, a number of new minerals were formed. The starred minerals in this list have only this one known occurrence: alunogen, *butlerite, copiapite, coquimbite, *gildite, *lausenite, *louderbackite, and *ransomite. At Laurium, Greece, a number of minerals have been formed by the action of sea water and other agencies on some ancient lead slags. These are fiedlerite, georgiadesite, laurionite, paralaurionite, and penfieldite.

While excavating an ancient Celtic grave at Lockmariaquer in Brittany, an emerald-green, wax-like substance was found which proved to be a mineral substance formed by the decomposition of human bones. This has been named callainite. The guano deposits of the West Indies and other islands, as well as those of bat caves, have been the source of an interesting group of phosphates. These are brushite, colophanite, hannayite, marinite, metabrushite, newberryite, oxxamite, pyrophosphorite, schertelite, stercorite, stoffertite, and struvite. Fichtelite and bartite are hydrocarbon minerals occurring in layers of pine wood from the peat beds of central Europe. Flagstaffite is another hydrocarbon found in cracks of buried tree trunks near Flagstaff, Arizona.

* * *

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"Opalescence"

Opalescence is a word which is often misunderstood, because its apparent meaning is not its real meaning. Many amateurs, and even the authors of many well-known books, labor under the delusion that the word means the gorgeous play of colors which makes the opal one of the most beautiful of precious stones. But such is not the case at all.

Opalescence is really applied to that whitish milkiness often visible in common opal, chalcedony, and even the type of feldspar known as moonstone. It often detracts from the real beauty of the stone, and seldom adds to it. The "fire" in the fine opal is commonly known to both dealer and scientist as "play of colors."

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HAPPY JACK INVITES THE ROCKNUTS TO BIG BEND

Santa Helena, Texas

Dear Desert:

Yesterday we received a copy of you for May (our first) sent by Dr. Lill of Seattle, and right here I want to state that the first \$2.50 we get our hands on goes for a year's subscription.

We read most of it last night by lantern light, but not until we laid down under the arbor for our afternoon siesta did we discover we had broken into print in Bertha Greeley Brown's column. Thanks lady!

We had another very pleasant rocknut here last week. Mrs. Charles Worley of the Boston Mineral club, and not so long ago Mr. and Mrs. H. H. Lippitt of Manhattan Beach, California. One thing in common these two ladies have that we like. They had rather find their own rocks than buy them and, God Bless 'em, we'd rather help 'em than sell 'em. We have found happiness in living by the side of the road and being a friend to rocknuts, fishermen, hunters and tramps.

The Big Bend is truly a rockhound's paradise—agates, jaspers of all colors abound, crystals and geodes of quartz, calcite, aragonite, amethyst and chalcedony. A great deal of the best hunting is fenced and closed to dealers, but

the amateur with a bit of diplomacy can get in nearly anywhere.

The slopes here are a veritable rainbow of color—all plant life blooms twice a year here—cacti of many kinds, flowers galore, and shrubs including the evergreen, ever-blossoming fast growing wild tobacco tree. Every spring we have botany classes from several colleges come down on account of the variety of plants.

HAPPY JACK WISE

• • •

HERE ARE SIMPLE TESTS IDENTIFYING 'FOOL'S GOLD'

Recently, an amateur prospector who wishes to remain anonymous, brought in nearly a half ounce of what he fondly thought to be coarse gold, from the vicinity of the American Girl mine. He had spent some hours picking it from the gravel and ore. The result was really impressive, or would have been if it had been real gold.

The test is simple. Gold is very soft and can be scratched easily, while pyrite is about 6 or 6.5 hardness, almost as hard as quartz. Gold is also malleable and can be pounded out into a thin sheet, while pyrite is brittle and crumbles to pieces. Chalcopyrite (copper pyrite) effervesces readily in nitric acid.

• • •

Phil Sabo, one of our readers in El Paso, Texas, has written in to see if he can join the rock hound fraternity. That is one "fraternity" which has few requirements and even fewer rules of membership. Anyone interested in rocks and willing to give the other fellow an even break or maybe a little better is already a full fledged member. The meeting place is the post office, or any place that two "rock hounds" get together. He says: "I have been on many field trips, and worked in the mines at Bisbee, Arizona. Have many beautiful specimens from there. I have all kinds of rock, and really like to trade. Come on you fellows!"

TINCALCONITE

Among the humble but fine minerals found in Kern county, and also at Trona lake, is tincalconite, known locally as "tincal." It is an intermediary form between kernite and borax. Otherwise the same, it varies only in the number of water molecules. Kernite has only four water molecules, tincal five and borax ten, so that tincal forms readily from either of the others. It appears either as a powder or as a very soft, snow white deposit of remarkable purity.

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Cogitations . . .

Of a Rockhound

By LOUISE EATON

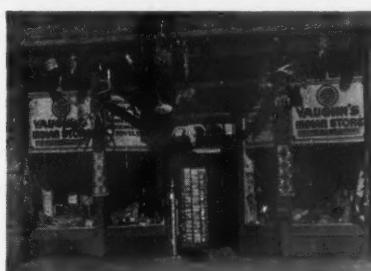
• Rockhounds sit around their campfires and enjoy the almost holy peace of the desert night. The brilliant moon splashes black shadows under cactus and silhouettes distant mountains. It is almost impossible in this tranquility to realize that when this same aloof moon climbs over the horizon on the other side of the world it lights the sky for scenes of destruction and murder.

• • •

• Rockhounds have learned that the desert is fundamentally kind in its cruel finality—no lingering deaths, no coddling of weaklings. Life, if it is to be terminated, is cut off with short agony. The fittest survive, and become strong.

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BOOKS

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RENO IS GENUINE DESPITE THE NEWSPAPER HEADLINES

It is not of Reno, "The Biggest Little City in the World," that Max Miller writes, but of the real Reno, Nevada. Beneath the over-publicized over-photographed bold exterior he has found the genuine, human side of the town and of its desert setting. Because he believes that the theme of RENO is bigger than the little town itself, he takes time to roam about Tahoe and Pyramid Lake and even up on the Comstock.

From these outposts he pictures in proper perspective this oasis on the sage-grey desert.

Reno, which started as a toll bridge across the Truckee in the 60s, soon became a railroad terminus and shipping center for Virginia City, Carson City, Silver City, Washoe City, Gold Hill, Dayton and Genoa. Its colorful, romantic history is closely interwoven with the history of these neighboring towns and with "all their storm-marked wear."

Reno is a very new little city. And because it is new, its history is very close to the people who even today call themselves by the sobriquet of the gold rush days, "People of Washoe." Unlike other regions, Reno has never overgrown its history. While other communities build over their pasts or overlap them, it goes on, expanding without destroying, for space and room are no object in Nevada.

And therein, Max Miller believes, lies the charm of the real Reno. It is neighborly and friendly, but more than that it has the advantage of being surrounded by the peace and calmness of the desert, by air-cleansed desolation. Within a few minutes of Reno in any direction one can find such complete solitude that the trip may as well be to Upper Tibet.

There is much desert philosophy throughout the pages of RENO, an understanding of the desert and what it does, that can only be gathered by close association with and by a genuine friendliness toward the people who live within reach of its influence. These people are growing tired of divorces, the author indicates. But they have another attraction to offer those who come with the serious intention of staying, one far more typical of Nevada. They offer a tax-free state without qualifications, for it collects no income tax, no inheritance tax, no sales tax, no gift tax and no tax on intangibles.

RENO, by Max Miller, 267 pp., Dodd, Mead and Co., New York \$3.00

—Marie Lomas

• • •

AN ADVENTURE IN OUTDOOR PHOTOGRAPHY

Over little-known and sometimes dangerous trails, Edward and Charis Wilson Weston take the reader-spectator on an astonishingly beautiful adventure through the pages of CALIFORNIA AND THE WEST. Breath-taking views of desert and mountain, of lonely homesites long since abandoned, of mountain passes and endless horizons—these are a part of the unforgettable pattern of their book. "A triumph in photography and a discovery in story" it has been called. Certainly each part complements the other.

Armed with an encouraging Fellowship from the Guggenheim Foundation, an 8x10 camera, sleeping bags and a few supplies, the Westons with "Heimie," their Ford, began their trek in 1937. For two years they ranged the desert and the mountain West, a strenuous but historic two years of vagabonding.

Ninety-six photographs, technically and artistically great, bound together by an account so vivid that the reader experiences, at least in fancy, the grueling days and the glorious days that go to make up such an adventure—these combine to form a valuable contribution to Western Americana.

Duell, Sloan and Pearce, New York, 127 pp. \$3.75

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WHEN WHIPPLE BLAZED A TRAIL TO THE PACIFIC

When Lieut. A. W. Whipple was sent out in 1853 by Secretary of War Jefferson Davis to ascertain the most practicable route for a railroad from Fort Smith, Arkansas, to Los Angeles, the young army officer kept an accurate day-by-day journal of the expedition.

This diary, edited and annotated by Grant Foreman, recently has been reprinted by the University of Oklahoma Press under the title *A PATHFINDER IN THE SOUTHWEST*.

Whipple's "itinerary" is one of the most interesting, informative and human journals of the early Southwest. His command, in addition to an escort of dragoons, was composed of qualified civilian scientists, mineralogists, astronomers, naturalists and artists.

Their survey generally followed the 35th parallel, extending across the Indian territory to Santa Fe and thence through northern Arizona along approximately the present route of the Santa Fe railroad to a point west of Flagstaff. Here they swung south along the Big Sandy and Bill Williams rivers to the Colorado and thence along the western banks of that stream to the Mojave valley at Needles, and then over Cajon pass to Los Angeles.

By the time they reached the Colorado their mules had become too few and exhausted to draw the wagons, and all the vehicles except a buckboard in which the survey instruments were carried, had to be abandoned.

Hostile Indians, scarcity of water, and the blazing of a road over terrain that had never known a wheel made each day's progress a new adventure. It is a fascinating story, and Grant Foreman has made it doubly interesting by the addition of footnotes which enable the reader to visualize the journey with reference to present-day place names.

The fine lithographs from sketches by H. B. Mollhausen and J. C. Tidball, members of the expedition, are reproduced in sepia. Map, bibliography, index, 279 pages. \$3.00

COMPLETE STORY OF BOULDER DAM IS TOLD

Nearly 13 years have passed since President Coolidge signed the Swing-Johnson bill, and the Boulder Canyon project in its larger aspects is not completed yet. But the great engineering and economic problems involved in the undertaking have all been met and solved and it is now possible to evaluate the project from an economic and social viewpoint.

This is the task undertaken by Paul L. Kleinsorge, assistant professor of economics and business administration at Oregon State college, in his book *THE BOULDER CANYON PROJECT*, recently from Stanford University Press.

Dr. Kleinsorge begins his story in 1539 when Francisco de Ulloa sailed to the head of the Gulf of California in search of a waterway that would lead to the vicinity of the Seven Cities of Cibola. The period of discovery and navigation is told briefly, and then follows a more detailed discussion of the reclamation of the lower river valleys, the hazards of flood and drought faced by the settlers—the conditions which impelled the federal government to finance the Boulder project.

In clear concise manner, and without prejudice, the author carries the project through step by step—the controversy over the Seven-Gates compact, the legislative history, and finally the engineering problems involved not only in building Boulder dam, but the All-American canal and the Los Angeles Metropolitan aqueduct, which are a part of the major undertaking.

This is a trustworthy and highly informative

book representing exhaustive research and a fine understanding of historical, legal, engineering, economic and social phases of the project. It brings together for the first time all the information pertinent to one of America's greatest engineering achievements. 311 pages, exhaustive bibliography, index, maps. \$3.50

THEY'RE STILL FINDING GOLD IN THE HILLS

The world's largest gold nugget was found at Carson Hill, California, in 1854. It weighed 2340 ounces and was valued at \$77,220.

While this was an all-time record, many men have uncovered masses of gold that ranged from a few hundred to \$50,000 in value. John

Gaarden tells about them in *GOLD NUGGETS OF THE WORLD*, recently published in Hollywood.

The author's hobby has been the gathering of facsimile copies of the world's most famous nuggets, and out of his experience as a miner and collector and research student he has compiled a volume of facts not only regarding the largest nuggets found in each field, but the gold-production of all the world-famous mines.

"Gold is where you find it," says Gaarden, and the incidents related in his book are ample proof that this is literally true. Some of the richest strikes have been made by mere accident. As you read this book you will feel the urge to go out in the hills and start looking for the nuggets that haven't yet been found.

The book is illustrated with photographs printed in offset. 149 pages, paper cover. \$1.50

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21st ANNUAL

SMOKI CEREMONIALS

SUNDAY at Sundown

AUGUST 3rd

The Smoki People are dancing again Sunday-at-Sundown, August 3rd, in the cool, pine-scented, mile-high city of Prescott, Arizona, this renowned group of 300 white men and women who are preserving Indian rituals and dances, will hold their 21st Annual Ceremonials.

Woven into a dramatic story-thread will be the symbolic Jemez Buffalo Dance, famous Laguna Dog Dance, intricate Shawnee Feather Dance, exciting Apache Devil Dance and the stirring Picarus Sun Dance.

Then, before the dying embers of many fires, the Smoki People will climax their performance with the weird, breath-taking Smoki Snake Dance . . . most unforgettable revelation civilized man will ever witness! Don't miss this most colorful of Southwestern events — the Smoki Ceremonials and Snake Dance.

Sunday-at-Sundown
August 3rd

PREScott, ARIZONA "LAND OF THE SMOKI PEOPLE"



Writers of the Desert . . .

MRS. K. P. FREDERICK of Long Beach, California, had the unique experience of selling the first manuscript she ever submitted to an editor—and the feature she sold was the story of the Bayeta rug, which appears in this number of Desert Magazine.

"My husband is a newspaperman," writes Mrs. Frederick, "and after living 25 years with a writer, I decided to try my hand at it, too. I slaved for two years trying to master the technique of fiction—and then gave it up and decided to try fact features."

"I wrote the Bayeta rug story with Desert Magazine in mind, and here is the formula I followed:

1.—Studied the magazine thoroughly to determine its style and appeal.

2.—Did a great deal of research on the subject.

3.—Started the story with an interesting personalized incident.

4.—Secured good photographs.

5.—Limited the wordage to Desert Magazine requirements, between 1500 and 3000.

6.—Schooled myself to accept the shock gracefully if the editor sent it back."

Mr. and Mrs. J. D. Young, owners of the rare Bayeta rug described by Mrs. Frederick are natives of Texas. He was formerly head of a teacher's college in that state, and conducted travel tours in the Northwest. The Youngs were frequent visitors in the Indian country and are the owners of many fine blankets acquired during their travels.

The Bayeta was found at a small Indian Inn not far from Roosevelt dam 25 years ago. The Inn has burned since then.

GOLD GULCH GUS . . .

By M. E. Brady



"My chauffeur is a rockhound."

A music teacher by profession, EDITH MCLEOD of Klamath Falls, Oregon, goes in for mineralogy and geology as a hobby and it was on one of her collecting trips that she decided to send Desert Magazine the Nevada opal story appearing in this number.

Mrs. McLeod keeps house, is a mother, doesn't care for radio or large cities and prefers to spend her recreation time exploring the remote corners of the desert country. She and her husband have a mutual interest in collecting rocks, and this leads to many enjoyable camping trips.

* * *

One of the most popular features in last month's Desert Magazine was *Hunting Chuckawallas with a Camera*. The writer of this story was WELDON D. WOODSON of Los Angeles. He has been free lancing in the field of nature and scientific features for the past eight years, having had acceptances from Scientific American, Travel, Natural History, Field and Stream, American Forests, The American Field, Discovery, Life and Camera Around the World.

"Of all forms of recreation," says Weldon, "tramping the desert is my favorite. My boyhood was spent in Texas where there is a wide horizon for exploration. I became a tramp of the outdoors in those days, and have been at it ever since."

Keith Boyd, who took the rare pictures of the chuckawallas for Desert Magazine is Woodson's brother-in-law. If you don't think it requires patience and skill and diplomacy to photograph a chuckawalla in the wild, just try it some time.

* * *

It is with sincere regret that the Desert Magazine records the death on May 10 of MICHAEL E. BRADY, whose "Sidewinder Sam" and other cartoons have appeared at intervals on these pages.

Mr. Brady gained fame originally as the model for the "Dutch Boy" trademark of the National Lead company. His life's goal was to be an artist, and he became chief cartoonist on the Brooklyn Eagle. His comic strips were syndicated and appeared all over the world.

Ill health brought him to Twenty-nine Palms where he continued his work. Early this year his condition became more serious and he was moved to the veteran's hospital at Sawtelle where death came.

Mike Brady was a master cartoonist, a friendly Irishman, and a high type of gentleman. Readers of Desert Magazine will share the regret of Magazine staff members that the cartoon on this page is his last, completed just a few days before he went to Sawtelle.

DITH
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Desert Place Names

Magazine is indebted to the research work done by the late Will C. Barnes, author of "Arizona Place Names;" to Betty Toulouse of New Mexico, Hugh F. O'Neil of Utah, Marie Lomas of Nevada, and Charles Battye of California.

ARIZONA

LAUFLER MOUNTAIN Gila county

Peak in Sierra Anches range. Named for Jake Lauffer, early day cattleman and prospector who had a fine ranch here in the '80s. "His orchard," Barnes says, "was the wonder of the region." Near head of Sally May creek. Lauffer and a man named Livingston were ambushed and badly wounded by outlaws here on August 3, 1888.

KYMO Yavapai county
Two first families settling here came, one from Kentucky, the other from Missouri. Hence the name "Ky-Mo." P. O. established April 29, 1893, Robert H. Ferguson, P. M.

HUNT'S CANYON Cochise county
In T. 20 S., R. 29 E., Coronado national forest, in Pedrogosa mountains. Short canyon rising under Limestone peak, runs southwest into Sulphur springs valley, east side of Swisshelm mountains. Named after Zwing Hunt, killed here by Apaches about 1880. Barnes quotes an unidentified correspondent, "He was buried at the foot of a juniper tree and they cut his name on the trunk and the date of his death. The tree still stands, the epitaph still decipherable."

CALIFORNIA

PRIEST WELL Riverside county

Reached by a branch road turning west 3.7 miles from Rice on the Blythe-Rice road. In Blythe junction basin, about one mile from the base of Arica mountain. The well was drilled in the summer of 1917 by a mining man named Priest, whose name was given to it. Well 587 feet deep, to water 507 feet, casing 10 inches at top, 4 inches at bottom. Water salty, temperature 90 degrees, was delivered to a gold mining property two miles away in the summit of Arica mountain, but was not used for domestic purposes.

BADWATER Inyo county

In Death Valley national monument, 279.6 feet below sea level, is the lowest point in North America. A marker has been placed on the mountain to show the ocean level. The pools of Badwater, in the rough tan-colored surface of the Salt Beds, were named in the early days by someone who found the water very bad, as indeed it still is. More than a mile above Badwater is famous Dante's View on the edge of the Black mountains, and to the west, across the reaches of Death Valley,

For the historical data contained in this department the Desert

Mount Whitney towers into the sky, its lofty summit the highest peak in the continental United States.

NEW MEXICO

CHAMITA (chah-mee'-tah) Rio Arriba county

Sp., diminutive of Chama, Spanish form of old Indian word designating area north of Chamita and thereby differentiating the two areas. Originally an Indian pueblo bearing the name of Yunque, "mocking bird place," to which the Spanish in 1598 added San Gabriel, a name sometimes used today. The name of Chamita dates from the 18th century and originally referred to a large area in the vicinity of the town, but usage has localized it to the town itself.

RIO PUERCO Valencia county
Sp., "dirty river." Settlement on the banks of the Rio Puerco, a tributary of the Rio Grande. During the dry season the river bed is dusty.

NEVADA

JOHNNIE Nye county
Town, population 27, altitude 3900, at northwest end of Spring mountain range in southeastern part of the county. Town established in 1882 by George and E. S. Montgomery; mining district in 1905. Named by locators for Indian Johnnie, a local character.

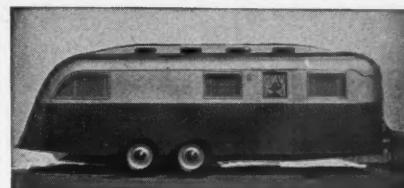
DISASTER Humboldt county
Peak, altitude 7400 in northern part of the county, so named because in May, 1865, seven prospectors were attacked there by Indians and four of the party were killed.

UTAH

TOOELE COUNTY

Created 1850. Area 6,849 sq. mi. Origin of name uncertain. Following theories advanced: 1. Derived from Goshute Indian word tuilla, referring to species of flag that grew near springs in this region. 2. Corruption of Sp. tule, for rushes. 3. An Englishman called it "too 'illy" because of many hills in the vicinity. 4. The sunset on Great Salt Lake reminded somebody of a valley in Austria so-named. First version is preferred, according to Utah Place Names, American guide series. Bancroft has another story on origin of name for the town Tooele (Desert Magazine, Aug. 1938, p 28).

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Just Between You and Me

By RANDALL HENDERSON

I SPENT a restful weekend recently at the ranch home of Mr. and Mrs. Harry Bergman at Aguanga on the western rim of the Colorado desert. Harry's grandfather was station-keeper at Oak Grove in the days when the Butterfield trail was the main route of travel across the Southern California desert.

Harry is a cattle rancher. But he has also found time to assemble one of the most interesting private collections of Indian artifacts in the Southwest. A majority of them were picked up among the chamise and boulders on his own ranch.

He has built his own museum, and recently has been classifying his exhibits. He has no thought of commercializing his collection—it is just a hobby that has made his life on the range doubly interesting.

He has other hobbies. One of them is seashells. I suggested it was an odd pastime for a man who has lived all his life on a semi-arid plateau on the edge of the desert.

"Nothing strange about it," he answered. "Many of the prettiest seashells to be found anywhere in this hemisphere are picked up along the sands at the head of the Gulf of California—right in the heart of the desert Southwest."

So there is a new idea for the desert hobbyists. The shells are found on both sides of the upper gulf, along the beach near Rocky Point, Sonora, or across on the peninsula near San Felipe. The roads down to the gulf are not boulevards—but for those desert explorers who find adventure in rough desert trails it is a thrilling trip.

There are wagon loads of shells down there, Harry assured me, and they have hardly been disturbed since the days when desert Indians gathered them for ceremonial and trading purposes.

* * *

I hope Ol' St. Peter will be as merciful as possible toward Walter Bellon when the San Diego supervisor appears at the celestial gate for final judgment.

At a hearing in San Diego early in June, Bellon appeared as an opponent of California's proposed Anza desert park. He testified that streams of water pouring down from the mountains along the western rim of the Colorado desert would make possible the cultivation of great tracts of desert land. He suggested that reservoirs for irrigation could be built in Collins Valley in Coyote canyon, Borrego Palm canyon, Bow Willow canyon, Oriflamme, Carrizo, Banner and Canebrake canyons.

Perhaps not all readers of the Desert Magazine are familiar with these canyons. I have tramped up and down them many times, and I will give my word of honor that from June to September every summer there isn't enough water coming out of all seven of them to irrigate 40 acres of spinach. And not much more than that during the remainder of the year.

Out here on the desert we do not despise a man merely be-

cause he is a liar. In fact, the tall tales that Dick Wick Hall, Shorty Harris, Pegleg Smith and Ol' John Hance bequeathed to us are part of our treasured lore.

But these old timers spun yarns for entertainment. They had a lot of fun doing it and no one was hurt. If Walter Bellon wants to win a place among the famous liars of the Desert country I am going to insist that he get himself an old flannel shirt and a pair of overalls and join the desert fraternity. The desert rats don't mind having the facts distorted a little sometimes—but they object to it being done by a white-collared politician.

* * *

Before the August number of Desert Magazine goes to press the long-standing controversy over the lands to be included in Anza state desert park will have reached a decision.

There has been quite a tempest of opposition to this park in San Diego—much of it from people who know less about the desert lands involved than I know about the moon.

Fortunately, conservation-minded people have rallied in support of the project. The Sierra Club of California named a special committee to make an independent investigation. This committee, headed by Arthur B. Johnson, engineer, not only reported favorably, but raised a fund of over \$600 among Sierra club members to help pay the government filing fees on the land. The Anza Memorial Conservation association raised another \$300. Since \$1.00 pays the fee on 80 acres, the cash now available from these two sources will provide for 72,000 acres of desert park. The money will be paid to the federal government through the California park commission—if the commission's decision is favorable. The deadline for California's acceptance of the public land is June 29.

I hope next month I'll have good news for those who have worked and contributed so generously for the success of this project.

* * *

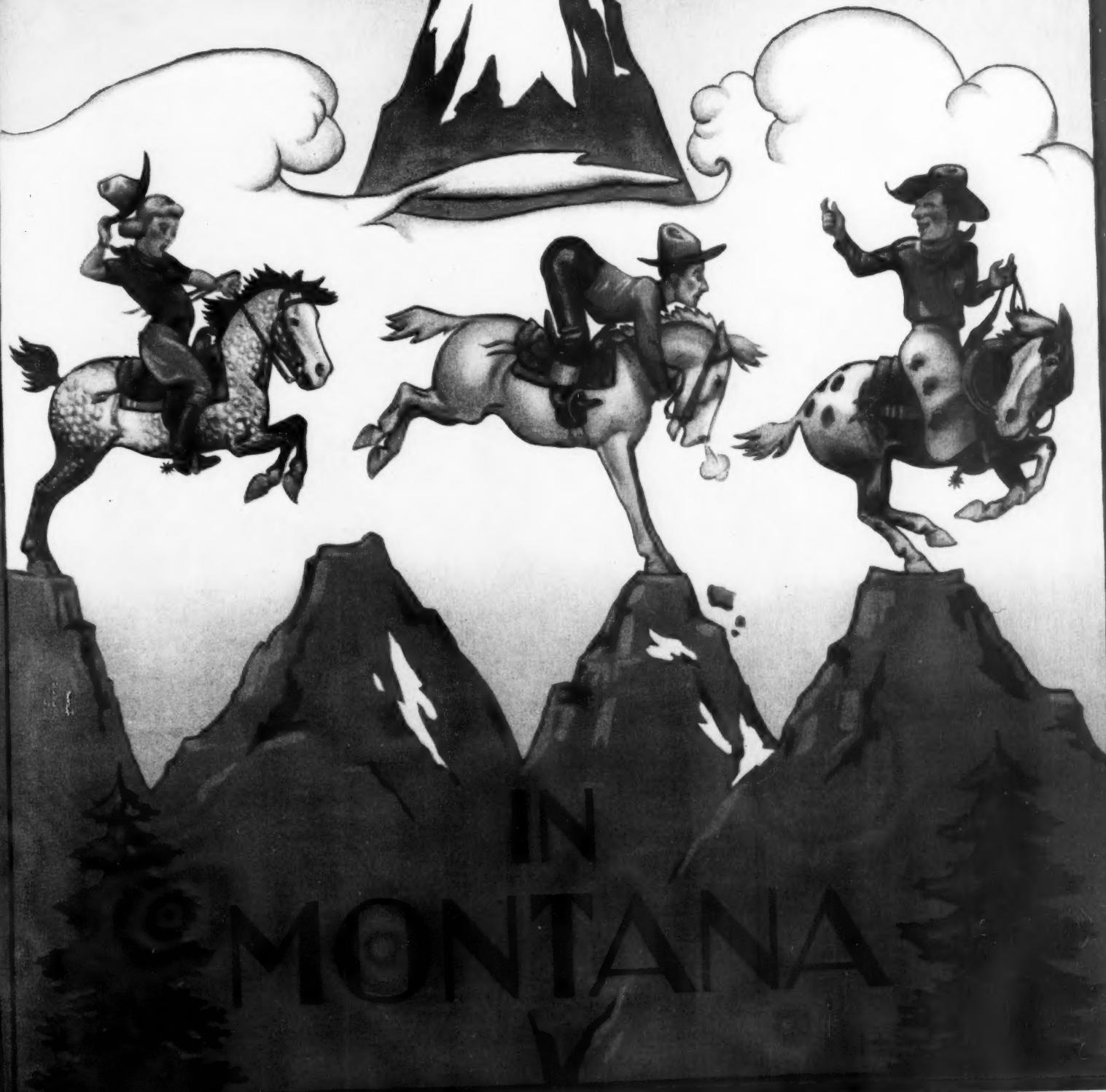
Correct spelling of the Spanish and Indian names in the Southwest is a never-ending source of discussion in the Desert Magazine office. We are never quite sure whether it should be Navajo or Navaho, Kachina or Katchina, Piute, Paiute or Pa-hute.

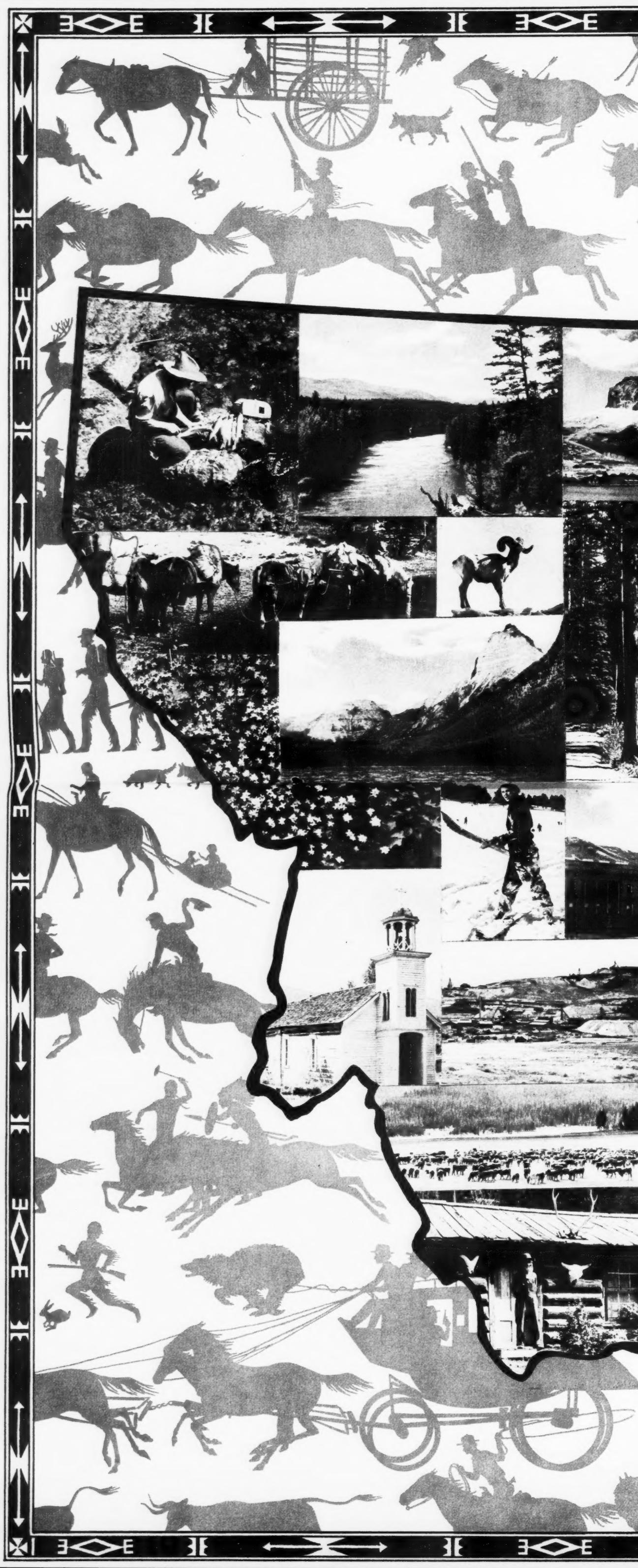
For instance, my friends in Nevada have convinced me that the correct name of the Indian tribesmen at Pyramid lake is Pa-hute. But the Indian department at Washington has officially designated the tribe as Paiute.

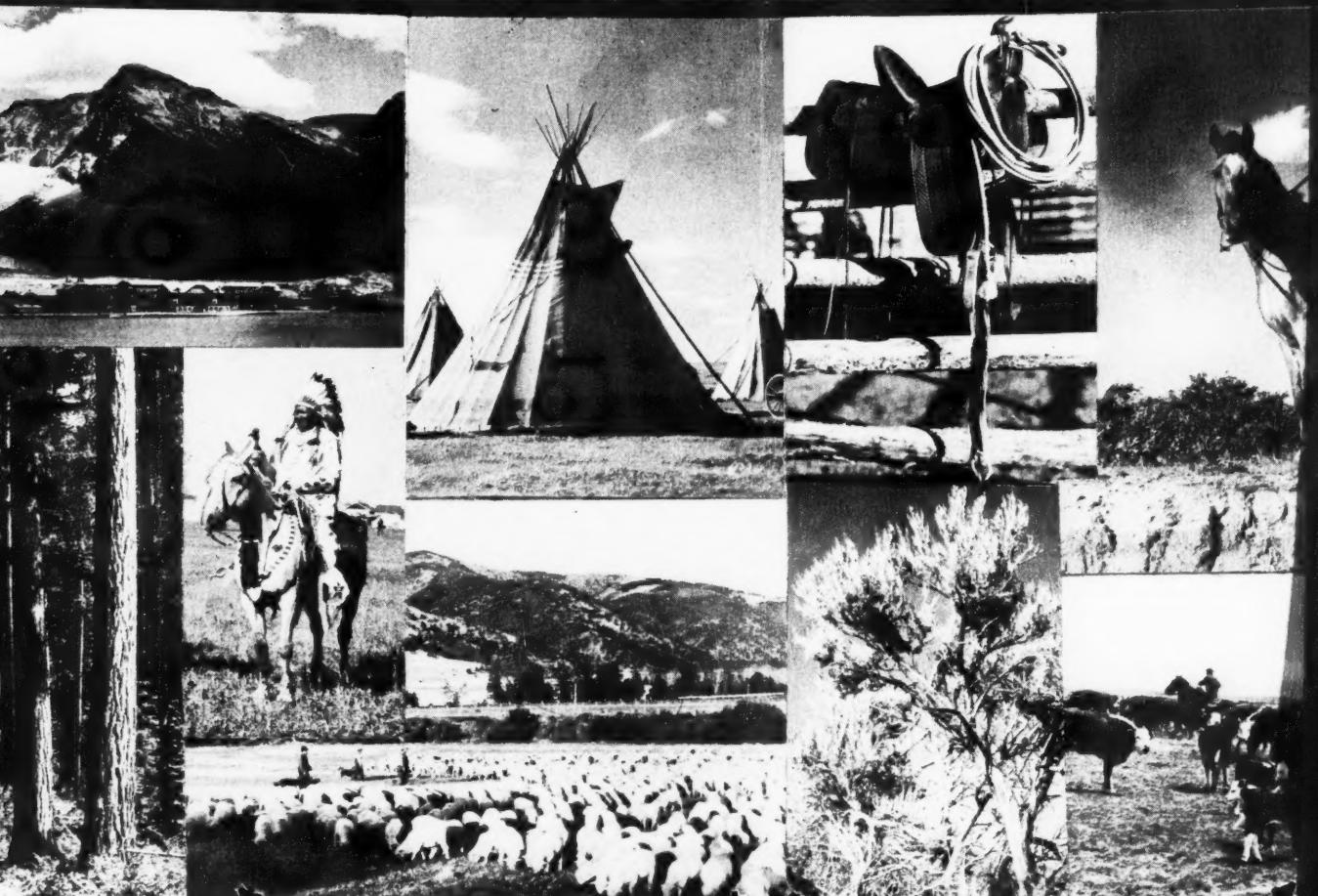
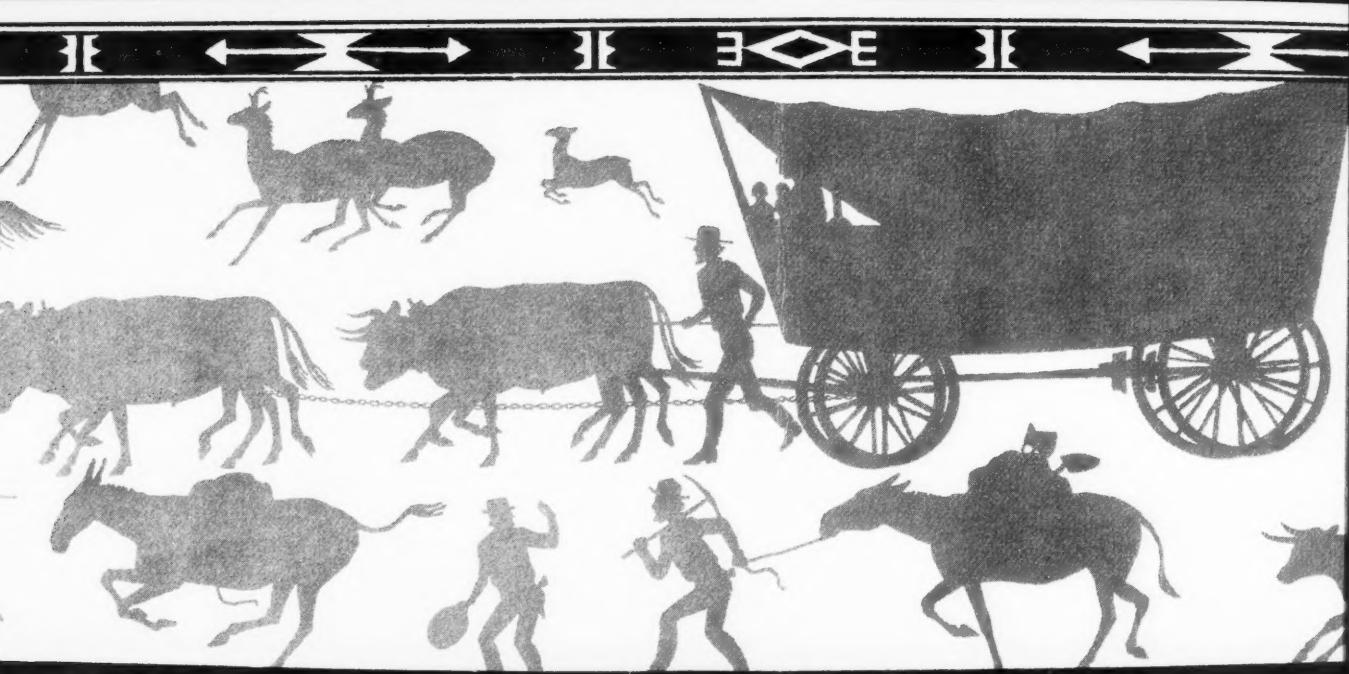
Members of the Desert Magazine staff are not the only ones who have been puzzled over this problem of spelling. Employees in the U. S. reclamation service recently made a search of old mining claim records in Arizona, and found the Gila river spelled Hila, Jila, Healy, Gilla, Giley and Guila.

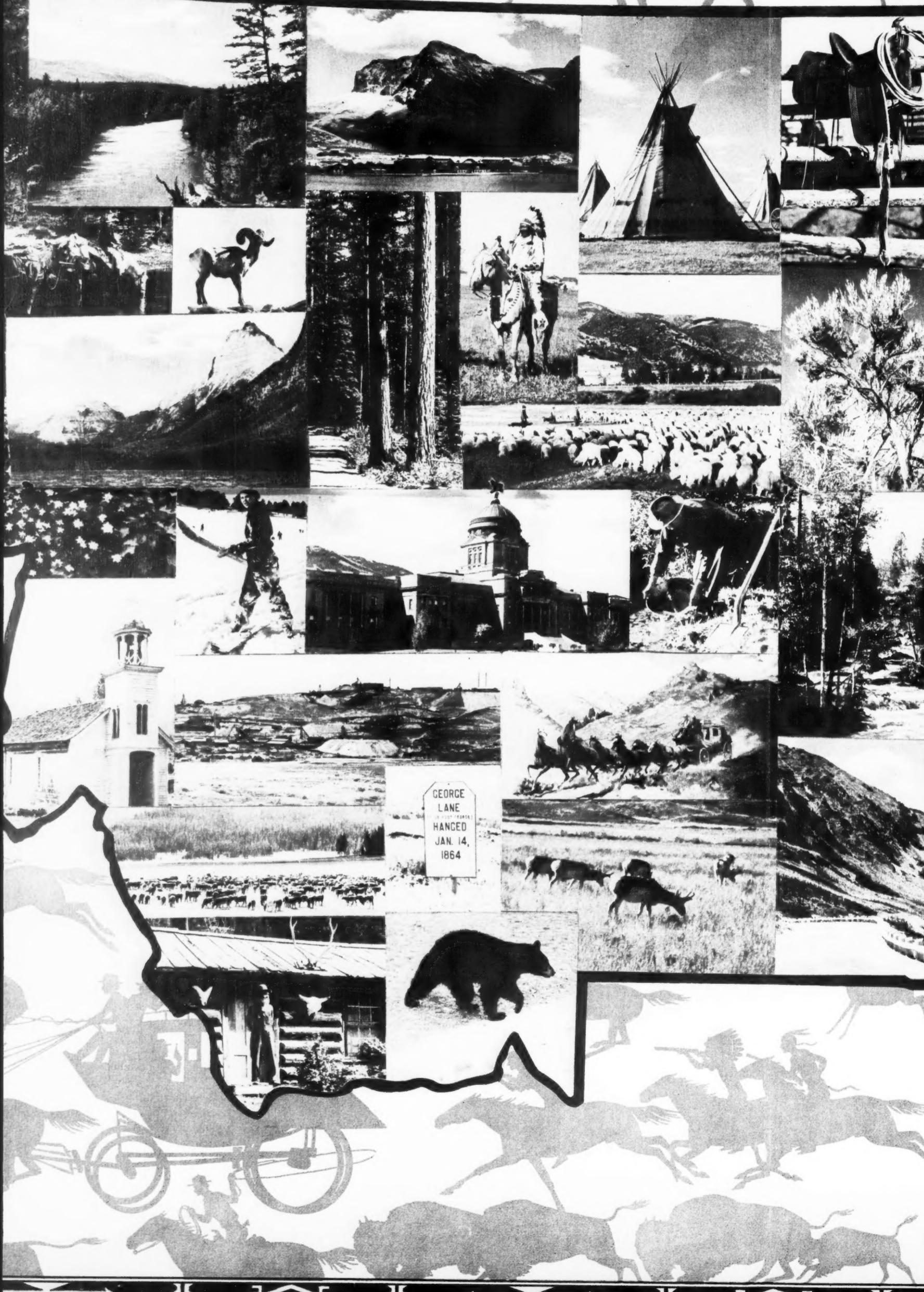
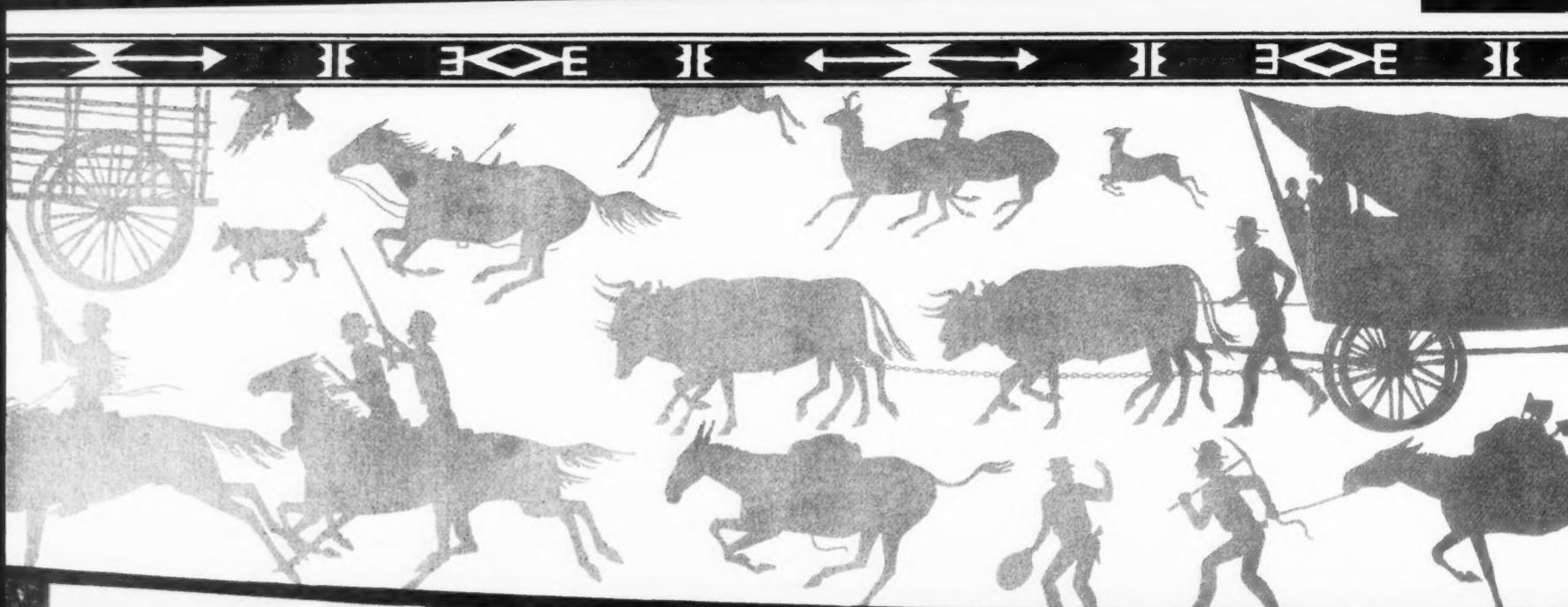
Under the circumstances, the most we can promise our readers is that, right or wrong, we will try to be consistent.

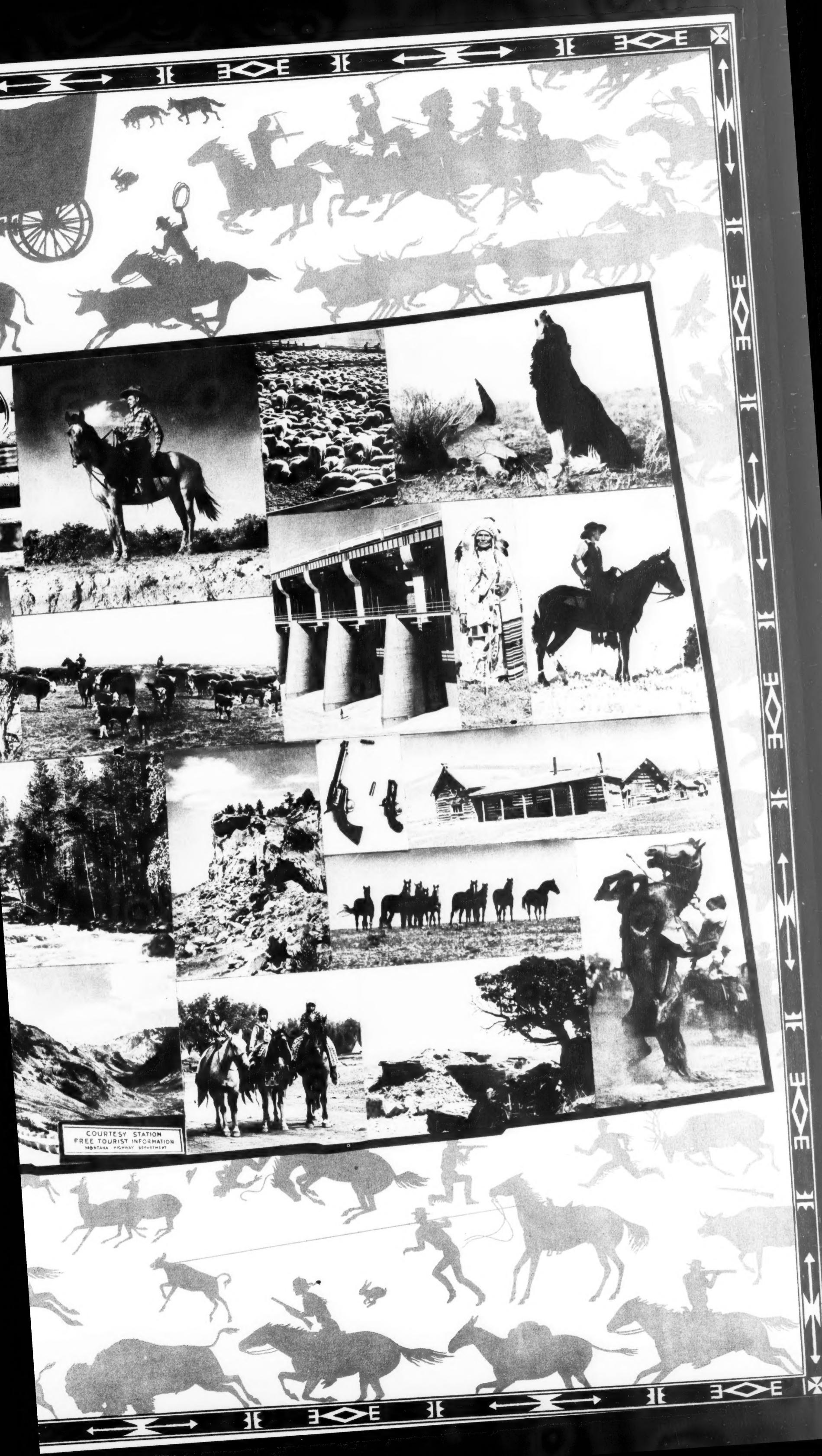
HITTIN' THE HIGH SPOTS











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Old timers in Montana used to refer to pilgrims as tenderfeet. They also were prone to cold deck such naive parties by inducing them to fork languid looking broncs that promptly came alive and broke in two. They took these guileless strays snipe hunting and let them hold the sack. Such whimsies didn't do the victims any real amount of good but the diamonds-in-the-rough considered the results right humorous.

Nowadays dudes are too valuable to waste like that. We call tourists "guests" and when they sit in with us we deal them a hand of real western hospitality.

Years ago wild game and Indians made the trails in Montana. Now high-powered engineers and contractors are responsible. These scientific gents have built about 5000 miles of oiled arterial system and draped it over the landscape where it will do the most good. At that they are using the mountain passes that the old timers located. These new highways are safe, direct and dustless. You will enjoy driving them.



This year lots of people are going to head across the continent from west to east and east to west. We suggest the northern or Montana route through our air-conditioned climate and stream lined mountains,—cold streams where you can safely drink without running the water through a meat grinder. In the summer months you can escape that oppressive heat. Autumn days are glorious out here and don't let winter bluff you out because we keep our mountain passes open the year around.

Moreover it is the scenic route of the West.



Montana scenery is as changeable as the fashion in women's hats and like

those fancy furbelows it runs from flat to edgewise with ever shifting colors. We aren't exactly cramped for room in the plains country and the old timers built our mountains high and mostly out of rock. There are places where you can see more miles than there are colonels in Kentucky. If you like scenery with beauty, grandeur, variety and wide open spaces come to Montana, the Land of the Shining Mountains.

We have quite a liberal display of it.



Maybe you hone for local color that smacks of the old time West. Waal now, podnah, our atmosphere isn't laden with powder smoke any more and lead poisoning isn't the common malady it used to be. Our best citizens claim that packing a six-gun interferes with their golf swing. But you'll find local color, lots of it.

You see, Montana is the country known to Lewis and Clark; the mountain men of the fur days; the Vigilantes of the gold diggings and the cow hands of the Texas Trail. Of course the Indians were tolerably familiar with it too.



Ordinary super-colossal landscapes are mighty trivial and puny compared

to Glacier National Park. It is a primitive region of towering mountain peaks, glacier-cut amphitheaters and valleys, ice sheets, Alpine lakes, impetuous streams and vast forests, the ensemble lavishly colored. Artists frantically sort their pigments, geologists become maudlin, photographers are all of a dither, botanists and sportsmen go mildly daft in this environment while plain lovers of the unspoiled outdoors can hardly believe their eyes.

A line addressed to the Superintendent at Belton, Montana, or to the Great Northern Railway General Offices, St. Paul, Minn., will bring you details.



Three of the five entrances to Yellowstone Park are in Montana. The approaches

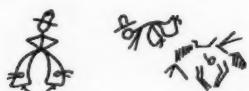
to these entrances are oiled highways. They all give you magnificent scenic panoramas yet no two are alike. One follows a world famous trout stream, another threads a gorgeous canyon for sixty miles, a third runs along a beautiful valley between rugged mountain ranges and still another spectacular route takes you where you can snowball in July. Some people find it convenient to come by rail. The Northern Pacific, Chicago, Burlington & Quincy, the Chicago, Milwaukee, St. Paul & Pacific, and the Union Pacific railways can give you detailed information about their service to the Montana entrances.



While Indians aren't swarming out on the war path in Montana any more

there are still a lot of rugged individualists amongst them who have not degraded themselves by adopting the white man's ways and habits. Our Indians are pretty gaudy looking aborigines when they get strung out at ceremonials. Their tribal dances are sure picturesque. They make the civilized terpsichorean tantrums of today seem plumb puerile.

Montana has seven reservations where famous tribes and the descendants of well known warriors now live.



Montana goes in right strong for that form of entertainment where gents in

high-heeled boots exercise their skill on frantic broncs and range bred cow critters. These occidental pastimes are variously referred to as rodeos, round-ups and stampedes. They specialize in violent action. We produce some top-hand bronc peelers, calf ropers, steer busters and bulldoggers out here. The balance of us like to mount the bleachers or corral fence and offer vocal encouragement. Maybe you'd like to join us.

Montanans, Incorporated, will be glad to send you the dates of such doings.



Figuring that a lot of people preferred their country au naturel the U. S. Forest

Service has wisely set apart certain vast regions in Montana and has designated them primitive areas. Roads are not allowed. To get places you either straddle a trail-smart cayuse or you travel by hand. This gives you the smell and feel of the hills and forest as they used to be. The peace and beauty to say nothing of the pristine trout streams are well worth the effort.

The Regional Office of the U. S. Forest Service at Missoula, Montana, will be glad to send you maps of these areas and give you detailed information.



Dude ranch is a term covering a multitude of spreads. Some ranches combine stock growing with dude business,—others are frankly devoted to paying guests alone. Some are in prairie country, some are in the mountains and some have a combination. All of them have saddle horses, scenery, good grub and western atmosphere. If you want the low down write Dude Ranch Division, Montanans, Incorporated, Helena, Montana. State the kind of country and recreational activity you prefer, specify MONTANA, and it will deliver data for your consideration.



Tourists who crave living in a rag house will find camp grounds along the

highways at convenient intervals in Montana. Some of them are privately operated, some have been built by this Department, some are maintained by municipalities and many have been installed by the U. S. Forest Service within the boundaries of national forests. The latter are in carefully selected spots with natural shade, shelter and water supply. They are usually provided with all essential accessories and some that aren't essential but mighty handy nevertheless. Many are along the byways in forest areas and so are missed by the casual tourist who sticks to the beaten trail.

If you like geology, archaeology and palaeontology,



Montana has material galore to work on. The surface has barely been curried to date. We are developing more and more amateur scientists per acre each year and the fossil and artifact crops are growing in proportion. Weird forms of live stock were curving around here millions of years ago and judging by the skeletons found in the prehistoric closets it was no fit place for a sensitive man in his cups.

Montanans, Incorporated, will tell you where the dinosaurs used to range and perhaps you can dig out a few ossified rib roasts.



Wild flowers are with us in Montana the entire summer season though

June and the first half of July are the times to see them at their best. Whole mountain sides and flats a mass of color. The old man of the mountains sure does a nice job of gardening. Bird lovers will find it interesting out here, too, with feathered rascals ranging from bald eagles to peewees. Wild animals are no particular menace to traffic but if you look sharp you can see them from the highways especially in the evening or early morning.



There may be a certain amount of zest in feeding succulent worms to lethargic fish but we have had no experience.

In Montana fishing means luring fighting trout and grayling in mountain lakes and white water streams with a fly or spinner. When you drop them a line you are pretty sure to get an answer. If you hook them they may come boiling out in a graceful arc to take a look at you and then they go away from there in a very fast and earnest manner. Our trout come in many sizes and models.

The State Fish and Game Department operates hatcheries and keeps the waters stocked.

There is a network of secondary roads in this State built and maintained by the



U. S. Forest Service and the Counties tying into the trunk line system of the Montana Highway Department. These are not always high speed boulevards. To be truthful some of them are rough, dusty and muddy at times. But these byways take you to lots of grand and unusual back country overlooked by the average traveller. Any discomfort involved is more than offset by what you see, so if the urge of the explorer is in you don't pass them up. We will be glad to tell you what some of them are like if you want to try them.



There are still a few people left who like to walk. This country is wide open to

such trained athletes. Trails through the timber and mountains take you where you can get clubby with the wild flowers and stain your fingers with the purple huckleberries. You can cache yourself in some bosky dell or perch on a piney pinnacle and watch the family life of the little furry and feathered folk who range in that neighborhood. Such places don't smell of gasoline and swing music.

Badlands are weird regions carved by Mother Nature into a jumble of mysterious shapes. Some of them are as vivid and vari-colored as a painter's palette. Eastern Montana has many such areas and they are well worth making a detour from the arterial highways to see. Economists, agrarians and county assessors may consider them plumb inconsequential but persons with imagination can get several bushels of pleasing fancies to the acre out of them.



The air has room to stir around in Montana. The snow capped pinnacles cool it off

and it absorbs the aroma of pine needles and sage brush. It is as dry and tangful as a well made cocktail and considerably more healthful and exhilarating. Summer days are warm and balmy and summer nights are cool. Even in July and August a blanket or two on the bunk is not amiss. That is quite an attraction in itself when the heat demons are doing a sun dance on the hot pavements back in the crowded settlements.



Montana was nicknamed The Treasure State shortly after the first soldiers of fortune found gold in her stream gravels. Since then metals, coal, oil, marble and jewels galore have been taken from her rock lined vaults. Our mining camps, big and little, are unique. Bearded prospectors still haunt the gulches; huge dredges are greedily munching away at auriferous gravel deposits; labyrinths of underground workings honeycomb mineralized veins.

We will direct interested travellers to active and ghost camps world famous in the mining industry.



Many Chambers of Commerce in Montana have published material apropos of their territory for the benefit of prospective visitors.

These publications vary from year to year but if you are interested in some particular part of the State, some local subject, activity, or type of vacation drop Montanans, Incorporated, a line and we will refer your inquiry to the proper communities for reply. Every section has something unusual and worth while to show you and they enjoy doing it.



Old Mother Nature is still crying hot tears in

Montana as a result of ancient volcanic convulsions. These hot springs are widely scattered over the State. They not only provide pure, clear plunges for recreation but many of the resorts are equipped with sanitarium facilities and are patronized for the medicinal qualities of the waters. Chemical analysis shows mineral content comparable to world famous spas. Combined with high, dry climate and clean air they are ideal places for invalids as well as for those who just need a good rest.



The Scandinavians may have invented the bed slats with the krokinol

wave but Montana has taken over the idea in a large way. In our mountains you can have skiing as you like it whether you are a pro, an amateur, expert or just one of the ones who do most of their slaloming wrong side up. Our snow is very durable. During the winter numerous ski clubs hold some very fancy meets out here. We are only a few hours from you by air winter or summer. Western Air Express, Northwest Airlines and Wyoming Air Service Inc. will bring you aflying in no time.



Perhaps you have gathered by now that we think very well of Montana and are willing to share her glories with you. The gate is wide open and you don't have to apply for admission. This is one heaven without a lookout at the wicket. Just breeze in, hang your hat on the floor and make yourself at home. We want you to enjoy our huge playgrounds with us during your vacation and will do everything possible to make things pleasant for you.

Best of luck till then, old timer!

We'll be seeing you!

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For any further information concerning the state send communications to the above address.

DESIGNED BY BOB FLETCHER

ART WORK BY SHORTY SHOPE



JU

BOOKS of the Southwest...

Here is a select list of books—to supplement your Desert Magazine, to add to the reference value of your library and to increase your enjoyment of the Desert country. Some are new, some have been long in print. Each is a vivid portrayal of some vital phase of the Southwest.

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